

ASSESSMENT OF THE CULTURAL COMPETENCE, DEMENTIA ATTITUDE, AND  
ALZHEIMER'S DISEASE KNOWLEDGE AMONG TERTIARY HEALTHCARE  
PROVIDERS

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## **Abstract**

Alzheimer's disease has made a significant impact on healthcare delivery in the acute care facilities. Tertiary healthcare providers are challenged by the needs of patients diagnosed with Alzheimer's disease while ensuring safe delivery of technical and specialized care in a fast-paced setting. There have been extensive research on informal caregivers and the consequences of providing care to patients with Alzheimer's disease. Few studies have queried tertiary healthcare providers and the influence of culture, attitude, or knowledge on Alzheimer's disease care. No study to date has investigated the elements of high quality Alzheimer's disease care which include cultural competence, positive attitudes, and knowledge of Alzheimer's disease.

A quantitative study was proposed to assess tertiary healthcare providers' cultural competence, attitude towards dementia, and knowledge of Alzheimer's disease using three measurement instruments. The study revealed the tertiary healthcare providers exhibit elements of cultural competence, positive attitude, and knowledge of AD based on the results from the CCA, DAS, and ADKS. Properly educating tertiary healthcare providers to the challenges and unique personalities of patients with AD or dementia can improve the quality of care for this vulnerable population in a frightening and intimidating environment.

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## List of Abbreviations

ADKS	Alzheimer's Disease Knowledge Scale
ADKT	Alzheimer's Disease Knowledge Test
ADRD	Alzheimer's Disease and Related Dementias
Alz.org	Alzheimer's Association website
ANOVA	Analysis of Variance
CAS	Cultural Awareness and Sensitivity
CCA	Cultural Competent Assessment
CCA5	Cultural Competent Assessment question #5
CCB	Culturally Competent Behavior
CCS	Cultural Competent Survey
CI	Confidence Interval
CCLR	Cleveland Clinic Lou Ruvo Center for Brain Health
CINAHL	Cumulative Index to Nursing and Allied Health Literature
CITI	Collaborative Institutional Training Initiative
CSN	College of Southern Nevada
DAS	Dementia Attitude Scale
DH	Dignity Health
DKQ	Dementia Knowledge Questionnaire
DV	Dependent Variable
EBSCO	Elton B. Stephens Company database
EDS	Epidemiology / Etiology Disease Scale
ERIC	Educational Research Information Center
FSA	Fraboni Scale of Ageism
IRB	Institutional Review Board
IV	Independent Variable
KMAQ	Knowledge Memory and Again Questionnaire
M	Mean
MANCOVA	Multivariate Analysis of Covariance
MANOVA	Multivariate Analysis of Variance
MCSDS	Marlowe-Crowne Social Desirability Scale
MEDLINE	Medical Literature Analysis and Retrieval System Online database
N	Sample Size
$\eta^2_p$	Partial Eta Squared
OR	Odds Ratio
P	P-value
PUBMED	Public MEDLINE
SD	Standard Deviation
SE	Standard Error
SNK	Student-Newman-Keuls
SPSS	Statistical Package for the Social Science
UAB ADKT	University of Alabama, Birmingham Alzheimer's disease Knowledge Test
UK	United Kingdom
US	United States



## **Chapter 1. Background and Significance**

### **Introduction**

Alzheimer's disease has made a significant impact on healthcare delivery within acute care facilities such as hospitals and trauma centers. As of 2017, more than 5 million Americans are living with the diagnosis of Alzheimer's disease (AD; sometimes referred to as dementia; Alzheimer's Association, 2017; National Center for Health Statistics, 2016). This statistic is projected to increase three-fold to 16 million by 2050 (National Center for Health Statistics, 2016; Alzheimer's Association, 2017). The population of young children has traditionally outnumbered older people, but a change in the population framework is predicted. By 2030, people aged 65 and older will outnumber young children and they will account for one billion people in the world or 13% of the world population (National Institute on Aging, 2017). The population of older people will consist of more than one ethnicity and culture, these ethnicities and cultures will experience a substantial increase in the elderly population with AD (Alzheimer's Association, 2017). The calculated statistical increase in the prevalence of AD warrants a change in AD care within acute care facilities.

### **Background**

Scholars have investigated the care for AD patients and have found that AD patients receive care from either informal or formal caregivers (Jackson, Cherry, Smitherman, & Hawley, 2008; Scerri & Scerri, 2013; Smyth et al., 2013). Informal caregivers often consist of patient family members such as, a spouse, adult children, siblings as well as extended family members (Alzheimer's Association, 2017; Caregiver Alliance, 2017). Patients with AD may find themselves in an acute care facilities resulting from an event such as a fall, dehydration,

infection, stroke or heart attack. At that time AD patients will experience healthcare from formal healthcare providers at a hospital or trauma center (Albert et al., 1999; Baillie, Cox, & Merritt, 2012; Baillie, Merritt, & Cox, 2012; Briggs et al., 2015; Cowdell, 2010; Gandesha, 2012; Kelley, Siegler, & Reid, 2008).

**Healthcare providers.** Formal healthcare providers are identified as primary, secondary, or tertiary levels of healthcare providers (John Hopkins Medicine, 2017). A primary healthcare provider delivers basic or general healthcare as a physician trained in family practice or internal medicine at a physician's office (John Hopkins Medicine, 2017). They are the initial point of contact for healthcare. The secondary healthcare provider acts as a consultant such as a cardiologist, gastroenterologist, or neurologist (John Hopkins Medicine, 2017). These consultants are referred to patients by their primary healthcare provider. Tertiary healthcare providers are specialized healthcare providers who are employed by medical schools, teaching hospitals, for-profit or not-for-profit hospitals (John Hopkins Medicine, 2017). These settings are capable of providing services with the use of sophisticated technology, variety of specialists, sub-specialists, diagnostic support personnel, and intensive care units. Tertiary healthcare providers in an acute care facilities will encounter AD patients who have had acute medical events such as a fall, dehydration, infection, stroke, or heart attack. The point of contact to tertiary healthcare providers typically begins at the emergency department of an acute care facility or hospital.

According to the National Center for Health Statistics (2017), the number of emergency department visits for 2009-2010 in the United States for people ages 65 years old and older were 19.6 million visits. The emergency department visits for those ages 65 years old and older,

29.1% were related to injury while 13.5% were classified as unintentional “fall” (National Center for Health Statistics, 2017). These staggering statistics do not distinguish those individuals who were diagnosed with dementia or AD. It is time to consider how effective the current protocol is for caring for AD patients in the emergency department.

**Culture.** Care delivered by tertiary healthcare providers is influenced by several factors. Studies have shown culture, attitude, and knowledge play a key role in delivered care (Berry-Cabán & Crespo, 2008; Leininger, 1988; Cicolini et al., 2015; Schim, Doorenbos, & Borse, 2005; Kang, Moyle, & Venturato, 2011; Jacelon, 2002; Scherer, Bruce, Montgomery, & Ball, 2008; Nagle, Usita, & Edland, 2013; Scerri & Scerri, 2013). An individual's cultural competence is their knowledge and understanding of cultures other than their own, that affect the care delivered to the patient. According to Leininger (1988), culturally congruent care is predicted to provide meaningful, satisfying, and beneficial care to clients (patients). Tertiary healthcare providers strive to provide quality care to clients (patients) of diverse cultures that is congruent, satisfying, and beneficial to them (Leininger, 1988). An assumptive premise of Leininger's Theory of Cultural Care states “knowledge of meanings and practices derived from world views, social structure factors, cultural values, environmental context, and language uses are essential to guide nursing decisions and actions in providing cultural congruent care” (Leininger, 1988). Tertiary healthcare providers who understand an individual's cultural or ethnic practices are perceived to be more competent and are preferred over providers who do not demonstrate the same cultural competence (Chow, Ross, Fox, Cummings & Lin, 2000; Braun & Browne, 1998). High quality AD care must include cultural competence when providing care to patients of different races, ethnicities, and cultures.

**Attitude.** Healthcare delivered by tertiary healthcare providers is influenced by their attitude (Jacelon, 2002; Kang, Moyle, & Venturato, 2011). Adjectives that described providers' attitudes as attentive, connected, friendly, helpful, unobtrusive, and respectful have a positive impact upon care recipients such as older people (Jacelon, 2002; Kang, Moyle, & Venturato, 2011). Alzheimer's disease patients admitted into an acute care facility have described their care as terrible, horrible, noisy, painful, hostile, confusing, and fast-paced (Cowdell, 2010; Baillie, Cox, & Merritt, 2012). Managing an AD patient in an acute care facility is challenging when specialized skills and technology are required. Tertiary healthcare providers need to take account their attitude when providing care to AD patients in an acute care facility.

**Knowledge.** Alzheimer's disease patients who experience an acute event such as a fall, stroke, or heart attack may find themselves admitted into an acute care facility. Patients with AD who are hospitalized can become disoriented and agitated due to unfamiliarity with the physical environment and organizational culture (Baillie, Cox, & Merritt, 2012). Baillie, Cox, and Merritt (2012) found that tertiary healthcare providers lacked specific AD knowledge to provide care for AD patients and the providers were challenged when the AD patient necessitated technical or specialized care. The tertiary healthcare providers' lack of AD knowledge affected the care delivered by the tertiary healthcare provider (Scherer, Bruce, & Ball, 2008; Gandesha, 2012; Kelley, Siegler, & Reid, 2008; Cowdell, 2010; Baillie, Cox, & Merritt, 2012). Several studies have investigated the knowledge level of AD among different healthcare providers such as medical students, nursing students, nurses, nurse practitioners, and physicians (Scherer, Bruce, & Ball, 2008; Nagle, Usita, & Edland, 2013; Jackson, Cherry, Smitherman, & Hawley, 2008; Nordhus, Siversten, & Pallesen, 2012; Scerri & Scerri, 2013; Smyth, et al., 2013; Hughes, Lowe,

Shine, Carpenter, & Balsis, 2014). Results showed that specific education to providing care for AD patients is necessary for the medical students, nursing students, nurses, nurse practitioners, and physicians. The knowledge that the healthcare providers received during their formal education was not adequate enough to ensure high quality care for AD patients in the acute care facilities (Alzheimer's Society, 2007).

### **Problem Statement**

Tertiary healthcare providers in the acute care facilities are challenged by the unique needs of AD patients. Acute care facilities are an environment that requires quick assessments to be completed on patients in the emergency department, then for that patient to be placed in an appropriate hospital unit based on their level of acuity. Studies have identified several dilemmas for AD patients in the acute care facilities, it is fast paced, the environment is unfamiliar, daily routine is unfamiliar, patients encounter several people in one day, the hospital units can be noisy, procedures can be painful and complications may arise such as infection, falls, increased length of stay or even death (Cowdell, 2010; Nourhashemi et al., 2001; Briggs, et al., 2015; Kelley, Siegler, & Reid, 2008; Albert et al., 1999). Tertiary healthcare providers are challenged to anticipate the unique needs of AD patients in the acute care facilities. Circumstances arise in acute care facilities where care must be provided quickly and questions are answered afterwards. This study seeks to provide data as to whether tertiary healthcare providers in an acute care facility have the cultural competence, positive attitude, and AD knowledge to provide high quality care to AD patients.

## **Chapter 2. Literature Review**

This chapter examines and describes the literature of tertiary healthcare providers in an acute care facilities who provide care for AD patients. The variables to measure in this study include culture, attitude, and knowledge of AD. These variables were primarily found in literature in relation to the tertiary healthcare providers in acute care facilities. Literature evaluating or utilizing measurement tools such as the Cultural Competency Assessment (this tool is also titled Cultural Competency Survey, all references here indicate CCA), Dementia Attitude Scale, and Alzheimer's Disease Knowledge Scale were included in this review. Several articles included two of the three mentioned measurement tools in their study when assessing tertiary healthcare providers caring for AD patients. No literature to date have quantified assessment of tertiary healthcare providers in acute care facilities utilizing the three stated measurement tools. The purpose of this review is to examine and describe literature of tertiary healthcare providers who care for AD patients in the acute care facilities with emphasis on their cultural competence, attitude towards dementia, and knowledge of AD. This examination of interrelationships between cultural competence, dementia attitude, and AD knowledge is the foundation to the development of a conceptual framework (Figure 1).

## Elements of High Quality AD care

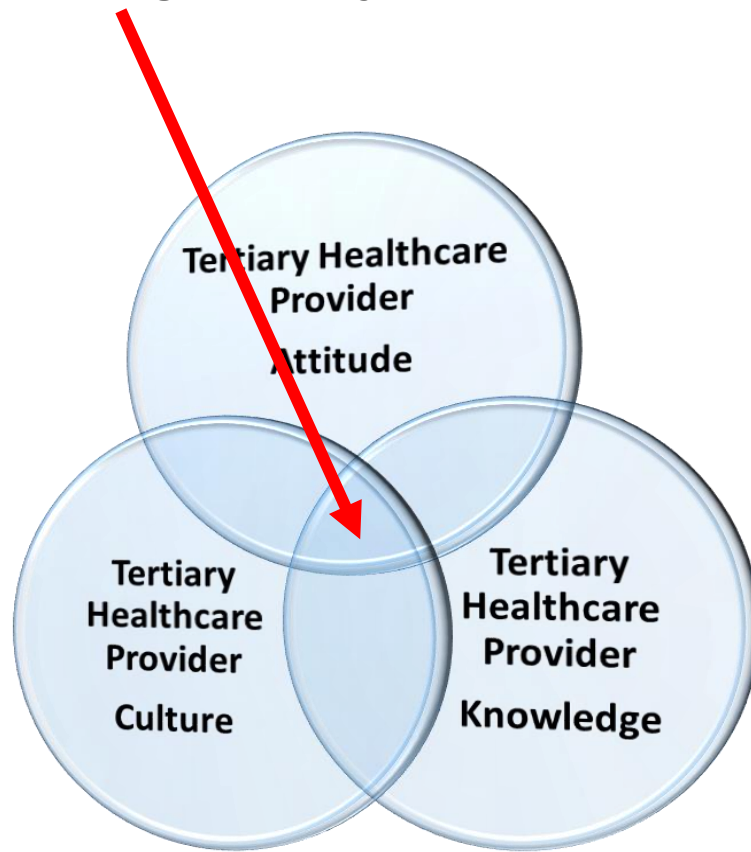


Figure 1. Conceptual Framework

The search utilized the following search engines: PubMed and EBSCO Host; EBSCO Host used the following databases: Academic Search Complete, Alternative Health Watch, CINAHL with Full Text, ERIC, Healthsource: Nursing/Academic Education, MedLine, and Psychology and Behavioral Sciences Collection. Search terms used were: *Alzheimer's disease, dementia, memory loss, tertiary healthcare providers, hospital staff, acute care facility, culture, cultural competence, attitude, and knowledge*. Search terms were blended in numerous combinations to identify as many articles as possible. The search period occurred from January 2014 to July 2017 for publication dates of 1998 through 2017. Figure 2 demonstrates the screening criteria conducted to determine which articles were chosen for the review.

Inclusion criteria were, patients with AD or dementia or memory loss, caregivers were tertiary healthcare providers or hospital staff to AD or dementia or memory loss patients, setting was a hospital or acute care facility for patients with AD or dementia or memory loss. Additional inclusion criteria were: cultural perspective of tertiary healthcare providers or hospital staff towards AD or dementia, cultural perspective of an ethnic group or the general public in relation to AD or dementia; attitude of tertiary healthcare providers or hospital staff towards people with AD or dementia; attitude of an ethnic group or general public towards people with AD or dementia; and final inclusion criteria was knowledge of AD or dementia of tertiary healthcare providers or hospital staff, knowledge of AD or dementia among an ethnic group or general public. A total of 33 articles that met the screening criteria were reviewed. After the review, the articles were grouped into four categories: AD and hospitalization (n=6), culture (n=10), attitude (n=6), and knowledge (n=11). See figure 2.



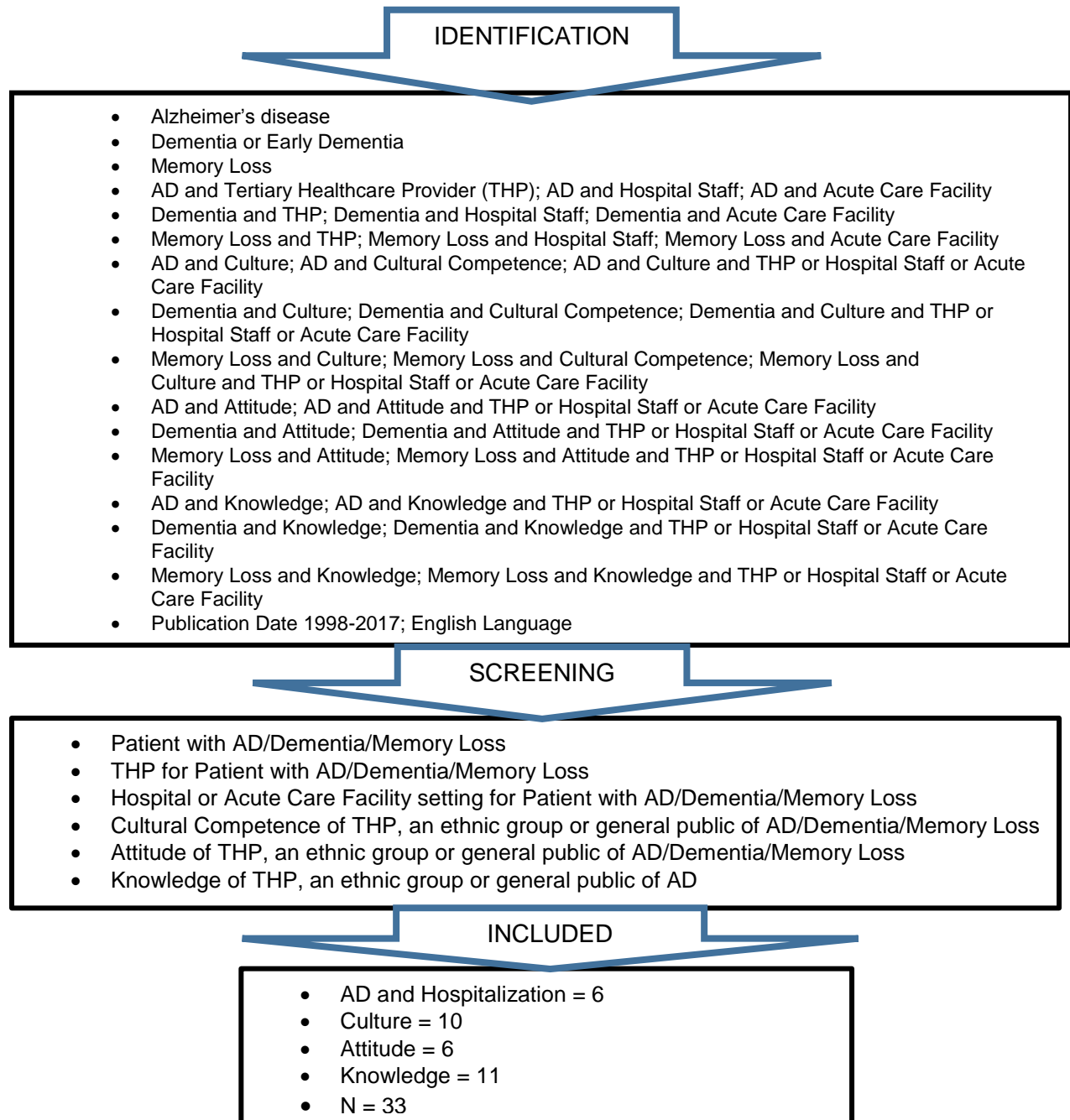


Figure 2. Article Screening Criteria  
AD-Alzheimer's disease; THP-Tertiary healthcare provider

## **AD and Hospitalization**

Hospitalization for patients with AD can be a stressful situation due to unfamiliarity of the physical environment and organizational culture (Baillie, Cox, and Merritt, 2012). Patients with AD feel comforted when familiar people are nearby and when schedule and preferences are adhered to (Alzheimer's Association, 2007). Cowdell (2010) reported hospitalized patients with dementia described their hospital experience as terrible, horrifying, noisy, unhappy and dirty. Acute care facilities have an organizational culture of performing tests and treatments in a timely manner, in order to complete these tasks many people may enter a patient's room in a matter of hours. The parade of unfamiliar faces for an AD patient can frighten and confuse them.

Albert et al. (1999) conducted a community based study of hospitalization and AD. The investigators found the risk of hospitalization increased with the severity of AD. The odds of hospitalization was 2.7 times more likely in patients with advanced dementia (Odds Ratio (OR) 2.7, 95% CI: 1.5, 4.6) compared to the risk in those with mild or moderate dementia (OR 1.4, 95% CI: 1.0, 1.9; Albert et al., 1999). The study revealed that hospitalization of advanced dementia patients led to hospitalization requiring hospital care which further increased patient complications to infection or death (Albert et al., 1999).

Nourhashemi et al. (2001) found that patients with AD were more likely to be hospitalized due to behavioral problems, falls, or weight loss compared to patients with non-dementia. Admission for behavioral problems of patients with AD was 26.3% compared to admission for behavioral problems of non-dementia elderly persons (1.3%). Hospital admission for falls or injury was 18.6% for patients with AD compared to 10.1% for non-dementia elderly

persons. This study suggests that patients with AD are more likely to be hospitalized in acute care facilities.

Briggs et al. (2015) investigated acute hospital care and activity attributed to caring for patients with dementia. The investigators reviewed data of patients 65 years of age and older from 2010-2012 and compared hospital activity of dementia patients versus non-dementia patients. The study found that 929 patients (2%) of 69,718 were coded with a diagnosis of dementia. Thirty-three percent (282 of the 929) of the patients with dementia presented at least twice in the emergency room during this study (Briggs et al., 2015). The average length of stay for the dementia group was 31 days versus 14.1 days for the non-dementia group. This study suggests that hospitalized AD patients had increased length of stay which generates a financial strain on acute care facilities and over utilization of resources.

Tertiary healthcare providers in an acute care facility may find it challenging to determine if hospitalized AD patients are having pain. Kelley, Siegler, and Reid (2008) found that patients with AD were not able to report pain level using a pain scale of 0-10 nor account for side effects of pain medications and they were unable to distinguish if the pain was current or not. Kelley et al. (2008) suggested that tertiary healthcare providers be aware that patients with AD are unable to ascribe pain on a value scale nor describe the qualitative characteristics of their pain. Tertiary healthcare providers should assess for possible etiologies of pain and be prepared to reevaluate the pain especially when the patients' pain description is not precise. Patients with dementia or AD are susceptible to the side effects of pain medication and it may be difficult for healthcare providers to determine if delirium has set in. Common side effects such as constipation or urinary retention may not be reported by the AD patient (Kelley et al., 2008).

Therefore, tertiary healthcare providers may inadvertently under medicate or over medicate AD patients due to inadequate assessment information (Kelley et al, 2008). Pain management for AD patients can be challenging in an acute care facilities which may require that tertiary healthcare providers receive additional training.

Baillie, Cox, and Merritt (2012) reported a two part study on caring for older people with dementia in the hospital. Investigators identified the challenges of caring for older people with dementia in part one and the strategies in part two. Nursing students were placed in focus groups to describe experiences of caring for older people with dementia in a hospital. Students described the hospital as an environment not conducive to free walking dementia patients, these patients were isolated due to infection and were forced to stay in their room with no television or music (Baillie, Cox, & Merritt 2012). Hospital staff were noted to have negative attitudes towards patients with dementia, the patients were treated as second class citizens, and were seen as an illness and not as a person (Baillie, Cox, & Merritt 2012). Part two of the study identified strategies to address the challenges of caring for older people with dementia in a hospital (Baillie, Merritt, & Cox, 2012). Strategies to caring for older people with dementia in a hospital included getting to know the person, building a relationship with the person, involving families to advise about patient's preferences, preparing to use flexible or creative care approaches, and promoting comfort through calm communication or use of music (Baillie, Merritt, & Cox 2012).

Gandesha (2012) investigated the adequacy of training in dementia care for acute hospital staff in the United Kingdom. The results suggested that hospitals need to target training to nurses and healthcare assistants on wards that do not specialize care for older people and mental health training should be a priority. Training should include easy access to materials for training in

dementia care, identify dementia leads (experts) in hospitals and ensure adequate staffing (Gandesha, 2012). To implement such strategies, the administration for these acute care facilities need to be part of the organizational cultural change to adequately train and staff these units so that high quality AD care will be provided.

## **Culture**

**Cultural influence towards dementia and AD.** Cultural practices and beliefs influence how patients with AD are treated and cared for. A review article by Braun and Browne (1998) described how individuals from Chinese, Japanese, Filipino, Vietnamese, and Native Hawaiian ethnic groups care for people with dementia. This article was intended to provide information to healthcare providers on perceptions of dementia, caregiving, and help seeking behaviors for all Asian Americans. Several common themes were found among the ethnic groups such as, how dementia was perceived within each ethnic group, what the family roles and responsibilities were, filial piety, stigmatization, perception of dementia as a normal part of aging, and that nothing can be done (Braun & Browne, 1998). Interestingly, all ethnic groups believed it was the family's responsibility to care for their cognitively impaired elderly. Filial piety was mentioned in all ethnic groups, that it was the family's virtue and duty to provide care for their aging family members (Braun & Browne, 1998). The responsibility of caring for the dementia elderly fell onto the adult children, the daughter-in-law, or any family member capable of providing care. Stigmatization was identified in all ethnic groups, therefore family behavior led to protection of their elderly by minimizing public interaction and avoiding public scrutiny which in turn preserved their family pride (Braun & Browne, 1998).

The subject of dementia being a normal part of aging, was a recurring theme in all ethnic groups in this study (Braun & Browne, 1998). Because dementia is perceived as a normal part of aging, people in these ethnic groups did not feel compelled to seek medical assistance because they believed nothing could be done to improve their mental state. Braun and Browne (1998) emphasized the importance of acknowledging cultural practices for elderly Asian Americans with dementia. Tertiary healthcare providers who have knowledge of ethnic cultural practices and beliefs can assist patients with AD or their caregivers to navigate care for the Asian AD patient. Tertiary healthcare providers who are knowledgeable of particular cultural practices are viewed more credible by the people of this population.

Jones, Chow, and Gatz, M. (2006) examined AD attitudes of Asian Americans. The qualitative study had six focus groups of different Asian American ethnicities. The focus groups consisted of Japanese Americans, Korean Americans, and Chinese Americans (four groups-two Mandarin speaking and two Cantonese speaking). The participants stated causes of AD ranged from genetic, neurological, and life-style factors like the food they ate (Jones et al., 2006). Participants identified activities to prevent AD included mental exercises such as crossword puzzles or mahjong, physical exercise, or types of food to eat or avoid (Jones et al., 2006). Participants spoke about the conflict between Eastern and Western medicines, the followers of Western medicine did not believe in Eastern medicine such as aromatherapy, herbal treatment or acupuncture (Jones et al., 2006). Topics brought up in this study discussed barriers to AD care such as, skepticism of effective treatments, belief that AD symptoms were a normal part of the aging process, and universal stigmatization of AD in Asian societies (Jones et al., 2006). These findings were similar to Braun and Browne (1998) that dementia symptoms were stigmatized

among ethnic participants. One pervasive barrier was language, the focus groups deliberated the challenges of finding a healthcare provider who spoke their native language and understood their cultural practices and beliefs (Jones et al., 2006). This study presented a variety of topics which prevented older Asian Americans from seeking healthcare for AD patients. This study emphasized the crucial need for culturally sensitive AD education for tertiary healthcare providers.

Chow, Ross, Fox, Cummings, and Lin (2000) investigated utilization of AD community resources by Asian-Americans in California. The study reviewed utilization of nine Alzheimer's disease Diagnosis and Treatment Centers (ADDTCs), these centers offered persons with AD and their families in California clinical services such as diagnosis, treatment, and support services for people with memory problems. The authors found that Asians, Filipino, and Pacific Islanders utilized dementia evaluation services at a lower rate compared to Caucasians in California. One major obstacle identified to these services was language barrier, the majority of the Asian elders were foreign-born and did not speak fluent English. Jones et al. (2006) found a similar barrier to AD care, language barrier prohibited referrals to dementia evaluating physicians. When language needs were met there was a significant increase in recruitment from Asian, Filipino, and Pacific Islander groups (Chow et al., 2000). Two additional obstacles to dementia services included financial constraints and distance traveled, these obstacles contributed to the under-utilization of dementia services (Chow et al., 2000). The authors emphasized the need for tertiary healthcare providers to understand obstacles Asian American AD patients and their families may face to access dementia services.

Mukadam, Cooper, Basit, and Livingston (2011) investigated why ethnic elders (Black Caribbean, South Asian, and White) delayed seeking dementia services in the United Kingdom (UK). Similar to Braun and Browne (1996) and Jones et al. (2006), these minorities identified dementia as a normal part of aging, and that caring for their aging parents was a cultural expectation. Unlike the previous findings, the construct of trust was presented in this study (Mukadam et al., 2011), those caring for their aging elders did not trust the healthcare system, and thus prevented elders from receiving dementia services. Ethnic elders stated they did not have the knowledge nor information to seek these available services (Mukadam et al., 2011). The study emphasized the importance of educating the general public not only to basic information about dementia but also its available services.

Rovner, Casten, and Harris (2013) found that older African Americans did not share the same cultural beliefs. Several factors influenced their cultural beliefs such as, levels of acculturation, family values, developmental experiences, level and quality of education, occupational accomplishments, sense of self-efficacy, and religion. The average score of the Alzheimer's disease Knowledge Scale (ADKS) was 18.7, which is a lower score than the 21.4 reported in a study that included African Americans (Carpenter, Balsis, Otilingam, Hanson, & Gatz, 2009; Rovner et al., 2013). This study suggests African American's who perceived closeness with God were associated with a lower need for health services or were more reluctant to seek medical care when it was needed. The researchers found substantial degree of variability in the measured scales which was associated with differences in knowledge of AD (Rovner et al., 2013). This study recommends tertiary healthcare providers acknowledge there are differences of cultural beliefs within an ethnic group.



Gray, Jimenez, Cucciare, Tong, and Gallagher-Thompson, D. (2009) compared ethnic differences in beliefs regarding AD among dementia family caregivers. The study involved white, Hispanic, and Chinese women caring for relatives with dementia which builds on prior research of culturally derived beliefs of AD (Gray et al., 2009). The study found that the white participants had significantly more knowledge of epidemiology and etiology of AD compared to the Hispanic and Chinese participants (Gray et al., 2009). The Hispanic and Chinese participants believed medical interventions were more effective in reducing, preventing, and delaying AD. The study found that both groups (Hispanic and Chinese) were more likely to worry about developing AD compared to the white participants (Gray et al., 2009). The finding of this study suggest that socially and culturally based constructs of dementia, understanding and interpreting AD symptoms, increasing help seeking behaviors, identifying preferred treatment, and increasing treatment compliance can impact AD care.

**Cultural competence of healthcare providers.** Madeleine Leininger (1988) recognized nursing care cannot be delivered uniformly to all people, she discovered:

That children of different cultural backgrounds had different expectations and responses to nurses as care providers. It is critical that clinical specialists recognize and respond to these differences. Children of different cultures were different and needed a culturally based framework to guide their nursing care. Care and culture were inextricably linked together and could not be separated in nursing care actions and decisions (Leininger, 1988).

Tertiary healthcare providers are individuals originating from different cultures and backgrounds. Leininger (1988) established that cultural background of the tertiary healthcare provider affects the care they deliver.

Schim, Doorenbos, and Borse (2005) examined cultural competence with hospital-based healthcare providers in Ontario and Michigan. They assessed cultural diversity, cultural awareness, cultural sensitivity, and cultural competent behaviors using the Cultural Competence Assessment tool (CCA). Respondents from Michigan and Ontario were culturally aware and sensitive; providers with higher education who had prior cultural competence training were more likely to achieve significantly higher CCA scores (Schim et al., 2005). The study results suggest that cultural competence can be enhanced with cultural competence education for healthcare providers to serve diverse clients and communities more effectively (Schim et al., 2005).

Benkert, Templin, Schim, Doorenbos, and Bell (2011) explored culturally competent behaviors among underrepresented nurse practitioners. The participants in the study consisted of men and women who self-identified as Asian American, African American or Black descent, and non-Hispanic White nurse practitioners. This study determined that diversity training was an important predictor of culturally competent behaviors. It was found that an association between increased numbers of experiences one has with other cultures or ethnicities, their cultural competence was greater compared to those with little exposure to other cultures and ethnicities (Benkert et al., 2011). This finding indicates that life experiences influence one's comfort with diversity, which can translate into comfort behaviors (Benkert et al., 2011).

Migration in European countries has affected the social structure and healthcare in Europe warranting culturally competent healthcare (Cicolini et al., 2015). Cicolini et al. (2015)

assessed Italian nurses' cultural competence using the Cultural Competence Assessment tool (Doorenbos et al., 2005; Schim et al., 2003). The study found that nurses who scored higher on culturally competent behaviors avoided generalizations, included cultural assessment, recognized potential barriers to service that people might encounter, they removed those barriers, they adapted their service to individual and group cultural preferences and welcomed feedback from their patients of different cultures (Cicolini et al., 2015). Culturally competent care is vital for nurses who work in countries with great ethnic and cultural diversity (Cicolini et al., 2015). Tertiary healthcare providers will face an increased number of patients from a variety of ethnic and cultural backgrounds in the acute care facilities, this emphasizes the importance of cultural competent care.

Berry-Caban and Crespo (2008) found that when healthcare providers and patients interact, their personal cultural identity influenced their assumptions and perceptions, which often impacts healthcare decisions and outcomes. When a tertiary healthcare provider did not understand a patient's culture this created a cultural gap. Berry-Caban and Crespo (2008) described that the cultural gap caused miscommunication and misunderstandings which interfered with successful healthcare delivery. Providers needed to inquire from their patients what their healthcare beliefs and practices were that are unique to them and include this information as part of their assessment and treatment plan (Berry-Caban & Crespo, 2008). This study identified cultural competent skills that included, communicating accurate information on behalf of the ethnic patient, willing to discuss cultural issues openly, assessing meaning of culture, working effectively with interpreters to interview patients, learning new languages, and securing patient trust were all necessary for adherence to treatment plans (Berry-Caban &

Crespo, 2008). Tertiary healthcare providers who exhibit cultural competent skills can improve communication between AD patients and their families.

## **Attitude**

**Attitude of healthcare providers.** Delivery of quality care is dependent on the providers attitude (Kang, Moyle, & Venturato, 2011; Jacelon, 2002). Patients with AD in an acute care facility benefit from positive attitudes from their healthcare providers (Kang et al., 2011). Positive attitudes can have a positive outcome on healthcare delivery, adjectives include attentiveness, connectedness, friendliness, helpfulness, unobtrusiveness, and respectfulness (Jacelon, 2002). Demands of the tertiary healthcare provider at an acute care facility are influenced due to environmental factors of that unit such as, noise, continuous-multifaceted activity, confined spaces, limited resources, staff-centered activity and complex medical treatments for high acuity patients (Borbasi, Jones, Lockwood, & Emden, 2006). These demands place healthcare providers at risk for high levels of stress that can propagate negative attitudes.

Higgins, Van Der Riet, Slater, and Peek (2007) explored the attitudes of healthcare workers towards older people in an acute care facility. Interviews revealed themes that described their work with older people such as, marginalized, oppressive of older people, and stereotyped attitudes (Higgins et al., 2007). Marginalization was evident when older people were disregarded, ignored, and treated poorly when staff spoke to older people (Higgins et al., 2007). The study reported oppression of older people was depicted by healthcare workers' acknowledgement that caring for older people required more time (Higgins et al., 2007). Older people were stereotyped as people who were a burden to care for. Nurses at the acute care facilities did not invest their time with older people because they knew the older person would

eventually return to a nursing home. The study revealed the nurses felt their efforts would not cure them nor improve their quality of life, this belief accounted for the nurses' negative attitudes (Higgins et al., 2007).

Kang, Moyle, and Venturato (2011) identified and described Korean nurses' attitudes towards older people with dementia at an acute care facility. They found that Korean nurses had moderately positive attitudes towards people with dementia in Korea. The study identified that the type of nursing department affected the nurses' attitudes. Nurses working in medical wards showed significantly more positive attitudes towards dementia patients compared to those working in surgical wards (Kang et al., 2011). The surgical ward nurses were overwhelmed by the demand of the demented patients which created a conflict with the nurses' priority which is to provide highly-technical nursing interventions (Kang et al., 2011). The study found hospital wards who utilized team nursing reported higher perceptions of quality care compared to those in the wards using the total patient care delivery model. This study demonstrated how imperative tertiary healthcare providers in acute care facilities should be cognizant of the needs of AD patients which in turn can affect their care. An environment with advanced technology, that moves in a fast pace, and has rapid turn-over places the AD patients at risk for inattentive care at an acute care facilities.

Norbergh, Helin, Dahl, Hellzen, and Asplund (2006) studied licensed practical nurses' attitudes of people with dementia. The licensed practical nurses' attitudes were measured on a positive to negative continuum, which were generally found to be positive for people with dementia. Nurses who perceived their patients with dementia as unique and valuable people, perceived their task of caring for them as important. Nurses who had neutral to negative attitudes

for patients with dementia were at risk of reducing their contact and interaction with the dementia patients. The nurses avoided unpleasant or emotionally taxing dementia patients while spending more time with patients who were not a burden (Norbergh et al., 2006). Nurses who have positive attitudes for people with dementia can ensure high quality care for AD patients.

George, Stuckey, and Whitehead (2013) reported the effect of an art-based intervention to improve medical students' attitude towards persons with dementia. Medical students were surveyed before and after an art-based intervention using the Dementia Attitude Scale (DAS; O'Connor & McFadden, 2010). The art-based intervention was TimeSlip, a group of people with AD or related dementia (ADRD) viewed a picture and were asked to make observations and tell a story about the image or object in the picture, their responses were recorded, which resulted in a collection of free-form poetry. The medical students were trained as a facilitator, scribe, and storyteller and each student took turns in each role for the TimeSlip sessions. The DAS scores prior to the art-based intervention were  $M = 101$  ( $SD = 10.9$ ) and the scores on the last day of the four week class were  $M = 117.2$  ( $SD = 10.5$ ). The medical students' DAS scores demonstrated significant improvement after the Timeslip sessions. An art-based activity can improve medical students' attitude towards people with AD or related dementias (George et al., 2013). This finding suggests using conventional forms of therapy can boost the attitude of healthcare students when working with people with AD and related dementias.

**Attitudes of general public.** Kimura and Browne (2009) investigated an elderly group of Filipino American women and their attitudes toward caregiving and the use of dementia services. The researchers were interested in the reasons why ethnic minority families underutilized dementia services such as home healthcare, respite services and case management. Barriers to

services included cultural influences such as participants noted they felt obligated to provide care for their elderly as a form of cultural respect, they were ashamed to request for services outside of their family, and they felt financial support should be sought only after one's personal finances were drained (Kimura & Browne, 2009). This study supported that the Filipino culture influenced caregiver's attitude toward dementia care which affected access to dementia services (Kimura & Browne, 2009).

Zeng et al. (2015) investigated the general public's perception and attitude toward AD and its influence on the care one received. A questionnaire was given to people in China, nearly 77% of the sample (1,531 of 2,000) consisted mostly of middle-aged women who reported fear of caring for the elderly with AD. The researchers attributed this fear to the cultural practice of Chinese women having to care for their children, grandchildren and older parents. Respondents believed there was social discrimination and stigmatizing behavior against people with AD in China (Zeng et al., 2015). This finding is congruent with the findings by Braun and Browne (1998), Jones et al. (2006), and Mukadam, Cooper, Basit, and Livingston (2011). Negative attitudes increased psychological burden to the caregivers of AD patients in China. This study supported the importance of educating the general public about AD, the more educated the general public is of AD, the general public will have less fear of AD (Zeng et al., 2015).

These articles presented demonstrate how positive attitudes for AD of tertiary healthcare providers, ethnic groups, and the general public can affect care for AD patients. High quality care for AD patients are influenced by the tertiary healthcare provider's knowledge of AD, which is the third element of high-quality AD care.

## **Knowledge**

**Knowledge of healthcare providers.** A number of studies have determined an increase in AD knowledge is recommended for healthcare providers such as nurses and physicians, psychologists, students and the general public (Jackson, et al., 2008; Nagle, Usita, & Edland, 2013; Nordhus, Siversten, & Pallesen, 2012; Scerri & Scerri, 2013; Smyth et al., 2013; Ayalon & Arean, 2004; Hudson, Pollux, Mistry, & Hobson, 2012; Nielsen & Waldemar, 2015; Sun, Gao, Shen, & Burnette, 2014; Hughes, Lowe, Shine, Carpenter, & Balsis, 2014).

Scherer, Bruce, Montgomery, and Ball (2008) surveyed nurse practitioners' comfort level of caring for AD patients and their knowledge of AD. The survey results of 221 respondents showed over one half of the nurse practitioners were "somewhat comfortable" managing care for AD, dementia, delirium, neurological problems, polypharmacy, and sleep issues. Most of the participants indicated that they would be better prepared to deliver care for the geriatric population if a didactic course in geriatrics was required in their program (Scherer et al., 2008). Scherer et al. (2008) encouraged nurse practitioner programs to include geriatric content into curricula to better prepare nurse practitioners to caring for older adults.

Jackson et al. (2008) investigated college students and mental health professionals' knowledge of memory aging and AD knowledge. This study used the following instruments: the Knowledge of Memory Aging questionnaire (KMAQ), Alzheimer's Disease Knowledge test (ADK test), and the Fraboni Scale of Ageism (FSA) in a pre-test and post-test format. Baseline results were established prior to a 2-hour lecture on memory and aging and the participants were tested after the lecture. The KMAQ mean was greater at post-test (0.83) compared to pre-test (0.76), which confirmed the sensitivity of the KMAQ to instruction. Results of the ADK test



yielded a significant difference between the mental health professionals' total score ( $M = 14.33$ ) which exceeded the students' score ( $M = 8.48$ ). Analysis of the FSA showed the 2-hour lecture had a positive effect with a higher post-test score ( $M = 23.06$ ) compared to the pre-test score ( $M = 22.54$ ). Mental health professionals had higher levels of knowledge of memory aging issues and AD knowledge compared to the students. These findings indicated AD knowledge can increase with an intervention such as a 2-hour lecture on memory and aging.

Nagle, Usita, and Edland (2013) studied first and final year medical student's knowledge of AD in the United States (US). The study utilized the University of Alabama at Birmingham Alzheimer's Disease Knowledge Test (UAB ADKT; Barrett, Haley, Harrell, & Powers, 1997). A total of 343 medical students throughout the US in various medical schools participated in this study, 47.2% ( $n = 162$ ) were first year medical students while 52.8% ( $n = 181$ ) were final year medical students. The knowledge score was  $M = 6.03$  of 12 ( $SD = 1.75$ ) for first year medical students and  $M = 10.05$  of 12 ( $SD = 1.37$ ) for final year medical students (Nagle et al., 2013). These findings were compared to another survey using the same tool conducted with undergraduate nursing students ( $M = 4.76$  of 12,  $SD = 1.86$ ), general physicians score ( $M = 8.49$  of 12,  $SD = 2.2$ ), and specialists score ( $M = 10.75$  of 12,  $SD = 1.34$ ) at the University of Alabama (Nagle, et al., 2013). Overall, final year medical students scored better than the first year medical students. These findings supported the need for AD training for medical students to better prepare them to deliver high quality AD care.

Nordhus, Siverstein, and Pallesen (2012) assessed the knowledge of AD among Norwegian psychologists using the Alzheimer's disease Knowledge Scale (ADKS; Carpenter et al., 2009). The Norwegian psychologists scored lower (ADKS  $M = 24.01$ ) than dementia

professionals from the United States (US; ADKS  $M = 27.4$ ; Carpenter et al., 2009). These findings supported findings from Scherer et al. (2008) and Nordhus et al. (2012) which concluded geriatric content is necessary in their programs curricula.

An article by Scerri and Scerri (2013) studied Maltese nursing students' knowledge and attitude towards dementia using the ADKS and DAS. The targeted population consisted of 457 full-time undergraduate nursing students, where 280 students responded. The ADKS score was  $M = 19.36$  out of 30 possible points, equivalent to 64.5% correct answers. This score was significantly lower than the study conducted by Carpenter et al. (2009) of US college students. Students who had exposure to dementia patients during their clinical placement had scored higher scores of ADKS compared to students who did not have the same exposure. One variable found to influence students' attitude and knowledge was the students' age. Students who were 24 years old or younger had lower scores ADKS and DAS scores compared to the older students. Results of ADKS for ages 24 and younger ( $M = 18.68$ ,  $SD = 3.07$ ) were lower compared to older age groups (ages 25-34:  $M = 20.92$ ,  $SD = 3.15$ ; ages 35-44:  $M = 21.16$ ,  $SD = 3.01$ ; ages 45-54:  $M = 20.90$ ,  $SD = 2.53$ ). The results of the DAS for ages 24 and younger ( $M = 100.81$ ,  $SD = 12.13$ ) were lower compared to the older groups (ages 25-34:  $M = 111.94$ ,  $SD = 8.17$ ; ages 35-44:  $M = 110.33$ ,  $SD = 8.18$ ; ages 45-54:  $M = 108.73$ ;  $SD = 9.32$ ; Scerri and Scerri, 2013). This study demonstrated that nursing students in Malta who had clinical exposure to dementia patients and were older in age, have adequate knowledge of AD and more positive attitudes towards people with dementia which in turn can have a positive influence to ADKS and DAS scores (Scerri & Scerri, 2013).

Smyth et al. (2013) surveyed the knowledge of AD among healthcare staff in Queensland, Australia. Participants from various departments included nursing, medicine, allied health, and support personnel from a tertiary level acute hospital, several small regional health facilities, and a community health service location. The ADKS was sent electronically to 4,750 healthcare staff, 1,659 opened the survey email, and 360 respondents completed the survey. The overall ADKS score was  $M = 23.6$  ( $SD = 3.26$ ). The results indicated healthcare professionals with direct patient contact (such as medical, nursing, allied health) demonstrated higher levels of AD knowledge compared to supportive personnel (administrative, housekeeping, security, and transport staff). The study provided evidence that gaps of AD knowledge exist among healthcare providers and that providing education to healthcare providers and to supportive personnel is important to increasing AD knowledge (Smyth et al., 2013).

**Knowledge of the general public.** Ayalon and Arean (2004) examined four ethnic groups of older adults and their knowledge of AD. The four ethnic groups included Anglo, Latino, Asian, African American, and other unidentified older adults they were given a 17-item true-false questionnaire. All ethnic groups had low levels of AD knowledge, the maximum score of the AD knowledge questionnaire was 17, African American ( $M = 8.36$ ,  $SD = 3.61$ ), Asian ( $M = 4.96$ ,  $SD = 3.89$ ), Latino ( $M = 4.56$ ,  $SD = 3.94$ ) and Anglo ( $M = 10.41$ ,  $SD = 3.02$ ). The study found that older Latino and Asian participants were in most need of AD education, this was attributed to lower levels of education and acculturation. Ayalon and Arean (2004) concluded that levels of education and acculturation influenced the knowledge of AD and health seeking behaviors.

Hudson et al. (2012) utilized the ADKS to assess the level of AD knowledge in adults in Britain. Previous studies had indicated that the general public held misconceptions of AD. This study found respondents had some knowledge of AD based on the survey subscale findings. The scale was divided into seven subscales which revealed “life impact” 77.6% correct responses, “assessment and diagnosis” 75.2% correct responses, “treatment and management” 74.5% correct responses, “caregiving” 73.7% correct responses and “symptoms” 70.2% correct responses, the study found that the respondents were lacking AD knowledge in the areas of “course of AD” 62% correct responses and “risk factors” 59.1% correct responses (Hudson, et al., 2012). The findings of this study confirmed that there is a need to educate the general public of AD knowledge.

Nielsen and Waldemar (2015) compared knowledge and perceptions of dementia and AD among four older ethnic groups in Denmark. The ethnic groups in this study included older native Danes, Polish, Turkish, and Pakistani immigrants. The participants were interviewed and had completed the Dementia Knowledge Questionnaire (DKQ) and Short Acculturation Scale. Pakistani and Turkish older people were found to have the lowest scores across the items of the DKQ. The Pakistani and Turkish older people were more likely to view AD as part of normal aging and it was thought a form of insanity, adding to the stigma of AD. The study found that Danish people (95%) believed age caused AD, while 5% believed AD was part of normal aging (Nielsen & Waldemar, 2015). Cultural differences reported in this study included, Turkish participants’ confusing dementia with depression, Pakistani and Turkish people attributing religion to dementia and believing reduced lifespan or dementia was an act of Allah (Nielsen & Waldemar, 2015). This study proposed raising dementia and AD awareness among the Turkish

and Pakistani community in Denmark is of great importance. The study revealed that increasing knowledge about dementia and AD among all people in Denmark may reduce stigma and increase help-seeking behaviors for AD support.

Sun, Gao, Shen, and Burnette (2014) examined older Chinese Americans and their knowledge of AD. Participants of the study included Chinese Americans aged 55 and older from a community setting and senior housing facilities. The Chinese participants were asked to complete a questionnaire composed of questions from two different scales—the Epidemiology/Etiology Disease Scale (EDS) and the ADKS. The Chinese participants achieved an average of 73% correct on the ADKS which was lower compared to professionals (91.3% correct), older adults (80.3% correct), and dementia caregivers (75.7% correct) in a study conducted by Carpenter et al. (2009). The Chinese participants were most knowledgeable about the course of AD and the life impact, but had least knowledge about its risk factors. The researchers found that participants obtained AD information through personal experiences or media which was related to higher levels of AD knowledge, those ascribing to cultural Chinese beliefs were associated with lower levels of AD knowledge (Sun et al., 2014). This study supported the need for AD education that is culturally sensitive and tailored for the targeted ethnic group.

Hughes et al. (2014) investigated whether a 20-min visit to the Alzheimer's Association website would improve people's knowledge of AD. Participants in the US were from various ethnic backgrounds working both in and outside the healthcare field. The participants were divided into two groups, one group was given access to the Alzheimer's Association website (Alz.org) and were told to interact with the website for 20 min. The second group was not given

website access. Afterward, the two groups completed the ADKS and the results demonstrated participants who visited the Alz.org website scored higher on the 30-item ADKS ( $M = 23.84$ ,  $SD = 3.39$ ) compared with the control group that did not visit the website ( $M = 22.38$ ,  $SD = 3.17$ ; Hughes et al., 2014). The participants who had visited the website reported higher subjective knowledge rating and felt they had learned something about AD, conversely the control group reported a slightly lower score in AD knowledge. This study emphasized how knowledge level can be improved with exposure to information in as little as 20 minutes.

### **Conclusion**

A review of literature in the nursing science, social science, behavioral and psychology science has revealed that a quantitative study measuring the cultural competence, dementia attitude, and Alzheimer's disease knowledge has not been performed among tertiary healthcare providers in an acute care facility in the United States. Studies have proven high quality AD care involves competence in culture, positive attitudes towards dementia, and knowledge of AD. The population of elderly people is expected to rise, which increases the demand for acute care facilities to be prepared to provide high quality care to the growing number of AD patients.

Criterion for high quality dementia care was based on suggestions made by previous studies. Kimzy, Mastel-Smith, & Alfred (2016) suggested that improved knowledge and attitudes might lead to improved care for people with AD. Other studies have sited that in addition to knowledge and attitude, that cultural competence effects delivery of healthcare. According to Benkert et al., (2011), Schim, Doorenbos, & Borse (2005), and Starr & Wallace (2009) cultural competence in healthcare providers can eliminate health disparities for vulnerable populations. Collectively, culture, attitude, and knowledge of AD patients is important to meeting aging and

healthcare needs of these vulnerable individuals who are at risk for health disparities (Doorenbos, Schim, Benkert & Borse, 2005; Kimzey, Mastel-Smith & Alfred, 2016; Benkert, Templin, Schim, Doorenbos & Bell, 2011; Schim, Doorenbos, & Borse, 2005; Starr & Wallace, 2009; Rovner, Casten & Harris, 2013).

The purpose of this study is to examine tertiary healthcare providers in an acute care facility and to measure their cultural competence, attitude towards dementia, and AD knowledge and to compare their assessment results to non-healthcare employees. The study findings can determine whether tertiary healthcare providers in an acute care facilities necessitate further education on how to address patients with AD or dementia and how to make a positive impact on the AD patients' hospital experience.

### **Chapter 3. Methods**

This chapter describes the method utilized for this study. High quality care for AD include three elements: cultural competence, attitudes towards dementia, and knowledge of AD. This section discusses the research design, procedure, variables, research questions, data collection, data handling, and data analysis.

#### **Design**

The study design is a quantitative descriptive design using cross-sectional survey method. The study utilized the Cultural Competence Assessment (Schim et al, 2003), Dementia Attitude Scale (O'Connor & MacFadden, 2010), and Alzheimer's Disease Knowledge Scale (Carpenter et al., 2009) in an electronic survey formatted in SurveyMonkey.

#### **Rationale for Using Quantitative Design**

A quantitative descriptive design was chosen to examine descriptive statistics of three groups of participants from the Cleveland Clinic Lou Ruvo Center for Brain Health (CCLR), Dignity Health (DH) in Las Vegas and Henderson, Nevada and The College of Southern Nevada (CSN). Each group was surveyed within a specific time frame. The pilot study data was collected from participants in the spring of 2015. The quantitative design of descriptive statistics allow for numerical and graphical expression of data to describe characteristics of a population. This study is the first to assess tertiary healthcare providers and non-healthcare employees using quantitative descriptive design to represent the variables of culture, attitude, and knowledge as a numerical value.



## **Role of the Researcher**

The role of the researcher is to identify an acute care facility and a non-healthcare site that will approve commencement of this study among tertiary healthcare providers and non-healthcare employees. The researcher identified a primary clinic to conduct the pilot study to assess the feasibility of the 100-item survey. The researcher selected an acute care facility and a non-healthcare site who approved commencement of this study. An affiliation agreement was created between the researcher's educational site (University of Hawai'i) and the three research sites: the pilot study site, an acute care facility and the non-healthcare site. The researcher obtained Institutional Review Board (IRB) approvals from all three study locations.

## **Procedure**

The pilot study conducted in spring of 2015, invited all employees to voluntarily participate in an online survey. The pilot study confirmed participants were willing to complete a 100-item survey and their results were analyzed using Excel and Statistical Package for the Social Sciences version 21.

The tertiary healthcare providers at the acute care facilities and the non-healthcare employees from the non-healthcare site were invited via electronic mail to participate in this study. A hyperlink to the survey was included in the electronic mail invitation, when the participants decided to participate in the study a hyperlink connected the participants to the SurveyMonkey website that contained the 100-item survey. The first page of the survey provided a detailed informational consent, instructions on how to exit the survey and how to proceed with the electronic survey. There was a "begin" icon at the bottom of the consent page. Survey questions were divided into 12 pages with an average of five to ten questions per page.

Demographics were collected on page 13, which included age, gender, and ethnicity, number of years of education, occupation, and experience with AD. Page 14 of the survey had a thank you message for participating in the survey, participants were offered a \$5 dollar Starbucks gift card for participating in the survey, in order to receive the gift card the participants had to provide their email address. The survey link was available for participation at an average of four weeks, after this time, the survey collector was closed and results were downloaded on to an excel spreadsheet. Preliminary coding and averages were conducted in Excel, then these results were uploaded into SPSS (Statistical Package for Social Sciences) Statistics 24.

### **Setting and Sample**

The pilot study participants were recruited from Cleveland Clinic Lou Ruvo Center for Brain Health (CCLR) which employs 90 people in departments such as administration, physical therapy department, research department, clinic department, and ancillary units. Participants of the pilot study  $n = 28$ . The survey results of the pilot study were compared with the survey results of the two research sites (DH and CSN).

The research study participants were recruited from two facilities, a healthcare setting and a non-healthcare site. Target sample size ( $N$ ) was determined using G\*power (University of California, Los Angeles, 2017) based on a two group comparison using an independent t-test, assuming two groups of equal size, a two-tailed  $\alpha = .05$ , medium effect size and power  $= .80$ . Results indicated a minimum sample of 64 participants in each group ( $n = 128$ ).

Assessment of tertiary healthcare providers at an acute care facility was conducted at Dignity Health (DH) sites in Henderson and Las Vegas, Nevada. The acute care facility provides services such as emergency room, general surgery, heart and vascular care, labor and delivery,

neurological care, orthopedics, and cancer care. Tertiary healthcare providers included nursing assistants, registered nurses, nurse practitioners, all ancillary disciplines such as respiratory therapists, physical therapists, occupational therapists and all administration personnel.

Assessment of the non-healthcare employees was conducted at the College of Southern Nevada (CSN) a non-healthcare site in Las Vegas, Nevada. The College of Southern Nevada provides educational services to students to obtain certificates of completion, associate degrees and bachelor's degrees. Non-healthcare employees were invited to participate in this survey, these employees included administration, faculty members, administrative assistants, and technicians. Employees from the health sciences department were excluded from the survey, the SurveyMonkey program would end the survey when employees selected health sciences as their department of employment.

Participants from all three sites were identified as direct contact or non-direct contact participants and a comparison was conducted of the results between those who have direct contact with AD patients and those who have non-direct contact with AD patients.

## **Variables**

The study's predictors (Independent Variables; IVs) are the age, gender, ethnicity, number of years of education, occupation, and experience with AD. Based on the participants' occupation, participants were coded as either an employee who has direct contact or non-direct contact with AD patients. The dependent variables (DVs) were the results of the Cultural Competency Assessment (CCA) which include CCA question number 5, CAS subscale, CCB subscale, and the MCSDS; Dementia Attitude Scale (DAS) and the Alzheimer's Disease Knowledge Scale (ADKS). Question number 5 from the CCA indicated the participants' self-

rating of how competent they felt working with people who were from cultures different than their own. This particular question was of interest to the researcher to determine which group (CSN or DH) felt more competent working with people who were from cultures different than their own. The dependent variables of the tertiary healthcare providers were compared with the dependent variables of the non-healthcare employees.

## **Instruments**

Instruments in this study include the Cultural Competence Assessment (CCA; Schim et al., 2003), Dementia Attitude Scale (DAS; O'Connor & McFadden, 2010), and the Alzheimer's Disease Knowledge Scale (ADKS; Carpenter et al., 2009). See appendix A, B, and C for the measurement tools. Instrument approval had been obtained from each developer of the measurement tool for use in this study, see appendix E.

**Cultural Competency Assessment.** The Cultural Competence Assessment (CCA; also called Cultural Competency Survey) is a 49-item survey. Internal consistency reliability for the CCA was 0.92, internal consistency for the 8-item CAS subscale was 0.75, and internal consistency for the 17-item CCB subscale was 0.93 (Schim et al., 2003). The Cronbach's alpha of the CCA when used with healthcare providers was .89, the Cronbach's alpha for the CAS subscale was .75 and .91 for the CCB subscale (Doorenbos et al., 2005).

Cultural Competence Assessment question number 5 is a self-reported cultural competence assessment on a Likert ordinal scale (1-5). Individuals self-report how comfortable they feel working with people of cultures different from their own. The Cultural Awareness and Sensitivity Subscale (CAS) are items 8, 9, 11, 12, 14, 15, 16 which measure cultural awareness and sensitivity and items 6, 7, 10, 13 are reverse coded. The scored items measuring cultural

awareness and sensitivity are added and divided by the number of items answered. The larger the CAS score demonstrates the individual has greater awareness and sensitivity to other cultures.

The Cultural Competence Behavior Subscale (CCB) are items 17 through 30 which measure the individuals' cultural competence behavior. All scored items are added and divided by the number of items answered. The larger the CCB score demonstrates the individual demonstrates more cultural competent behaviors.

Previous studies have identified that participant responses have social biases that are influenced by an individuals need for social approval. The CCA utilizes the Marlowe-Crowne Social Desirability Scale (MCSDS) to identify individuals who respond favorably to gain social approval. Items 31, 32, 33, 34, 36, 38, and 41 measure individual characteristics that are undesirable but probably true of most people. Items 35, 37, 39, 40, 42, 43 measure the individual characteristics that are culturally acceptable but probably untrue of most people. The scored items in the MCSDS are summed, the larger the score demonstrates the individuals' need for approval. Items 44-49 of the CCA scale inquired demographic information, these were omitted from the survey to prevent repetition of demographic questions that were at the end of the 100-item survey.

**Dementia Attitudes Scale.** The Dementia Attitude Scale (DAS) is a 20-item scale measuring two domains: an individuals' comfort and knowledge of people with dementia. The estimates of Cronbach's alpha ranged from 0.83-0.85 for the DAS scale and evidence exists supporting convergent validity (O'Connor and McFadden, 2010). Items 1, 2, 4, 5, 6, 8, 9, 13, 16, 17 assess the comfort level one has interacting with people with dementia. Items 3, 7, 10, 11, 12, 14, 15, 18, 19, 20 assess the level of knowledge one has about dementia. Scale items were rated

on a 7-point Likert scale, responses were coded and tabulated, possible scores ranged from 20-140. The higher the score on the DAS, the participant demonstrates more positive attitude towards people with dementia.

**Alzheimer's Disease Knowledge Scale.** The Alzheimer's Disease Knowledge Scale (ADKS) is a 30-item scale requiring true or false responses. The ADKS test-retest reliability coefficient was 0.81 and the internal consistency reliability was 0.71, content/predictive validity is adequate (Carpenter et al., 2009). This scale assesses seven domains which include: risk factors, assessment and diagnosis, symptoms, course of disease, life impact, caregiving, and treatment and management of AD. Correct answers are summed with a possible range from 0-30.

### **Demographics**

The electronic survey include basic demographic questions that identified gender, age, ethnicity, level of education, number of years as a healthcare provider (healthcare facility), and experience with dementia or AD.

### **Research Questions**

The primary purpose of this study is to examine whether or not tertiary healthcare providers in an acute care facilities have cultural competence, positive attitude, and AD knowledge to provide high quality care to AD patients. The secondary purpose of this study is to compare the assessment results of the tertiary healthcare providers with results from a control group of non-healthcare employees. The hypothesis is that the tertiary healthcare providers will have higher scores in all three measurement instruments when compared to non-healthcare employees.

*Study Aim 1:* To examine tertiary healthcare providers in an acute care facilities and measure their cultural competence, attitude towards dementia, and AD knowledge.

*Research Question (Q1):* Do tertiary healthcare providers in an acute care facilities have the elements of cultural competence, positive attitude, and AD knowledge to provide high quality AD care?

*Study Aim 2:* To compare the results from the three measurement instruments from the tertiary healthcare providers and the non-healthcare employees.

*Research Question (Q2a):* Do tertiary healthcare providers have greater cultural competence compared to the non-healthcare employees?

*Research Question (Q2b):* Do tertiary healthcare providers have greater positive attitudes towards dementia compared to non-healthcare employees?

*Research Question (Q2c):* Do tertiary healthcare provider have sufficient knowledge of AD compared to non-healthcare employees?

### **Data Collection**

The 100-item electronic survey was stored in SurveyMonkey with an electronic hyperlink that was electronically mailed to tertiary healthcare providers at an acute care facilities and to employees of the non-healthcare site. The electronic survey was available for an average of four weeks for all invited participants. After completion of the fourth week the survey collector was closed, all data collected from SurveyMonkey was downloaded to an Excel spreadsheet, the data were coded and analyzed for descriptive statistics using Excel. These results were uploaded and analyzed using SPSS Statistics 24 software using multivariate and univariate analysis.

## **Data Handling**

Management of electronic information obtained from SurveyMonkey was kept electronically on a passcode secured mobile jump drive. The electronic data from SurveyMonkey was accessible by a user identified by passcode, responses did not have identifying information such as the participants' name, IP address, phone number, or email address.

## **Protection of Human Subjects**

The researcher secured protection of human subjects' rights demonstrated by completion and certification of Collaborative Institutional Training Initiative (CITI) modules. The CITI modules were completed for the researchers' educational site, CCLR, and the DH sites. Institutional Review Board approval was obtained from the pilot study site, acute care facilities and the non-healthcare site prior to commencement of the electronic survey.

**Confidentiality.** Study participants did not have identifying features collected from the electronic survey, such as the participants' name, IP address, phone number or email address. Participants' survey responses were kept confidential and secured with no identifying features on a password secured mobile jump drive. The mobile jump drive was stored in a secure and locked desk. If participants from the study sites (DH and CSN) chose to submit their electronic mail addresses to receive the \$5 Starbucks coupon, a third party emailed the participants their gift card then deleted their email afterwards.

**Potential risks.** No physical or emotional risks were anticipated with participation of the study. Completion of the 100-item survey at work or home posed minimal mental risks, risks



identified include mental exhaustion or boredom due to the length of the survey. No long term physical, emotional, or mental risks were anticipated.

**Participant benefits.** There were no direct participant benefits for either the tertiary healthcare providers or the non-healthcare people. Participants who chose to complete the survey and submit their email benefited from a \$5 Starbuck's gift card. Participation in the study contributed to the advancement of AD research in the Henderson and Las Vegas area.

### **Data Analysis**

Descriptive analysis was performed on the survey results from pilot study, tertiary healthcare providers (DH) and the non-healthcare people (CSN) to identify mean differences between groups. Demographic information collected such as age, gender, ethnicity, number of years of education, occupation and experience with AD were analyzed as the IVs. The DVs were the results from the measurement tools: CCA, DAS, and ADKS which were tabulated and analyzed against the IVs.

G\*power (University of California, Los Angeles, 2017) was used to perform a-priori power analysis to determine minimum sample size needed of the research study. Assuming the two groups are of equal size, a two-tailed alpha = .05 and a medium effect size and power = .80, the study required 64 participants in each group (n = 128). The pilot study did not have G\*power analysis conducted to determine minimum sample size needed.

### **Analysis Method**

Analysis pertinent to the research questions, multivariate General Linear Model procedure (MANCOVA) was employed with all DVs and IVs combined. Multivariate analysis of the six DVs and eight IVs was attempted and no discernable outcome resulted, the SPSS

program was unable to calculate significant difference of means with this large number of variables. Therefore the researcher analyzed the DVs specifically for CCA (CCA question number 5, CAS, CCB, and MCSDS) with the IVs using the multivariate analysis. Another multivariate analysis was conducted with the remaining DVs (DAS and ADKS) with the same set of IVs. DVs and IVs that revealed significant difference of means which were analyzed with MANCOVA a univariate analysis to determine the contributions of each predictor.

### **Potential Limitations**

Potential limitations of this study included survey design, participant recruitment, and generalizability. The study design utilized three measurement instruments the CCA, DAS, and the ADKS which collectively created a 100-item survey. This represented a heavy response burden that may have caused participants to experience survey exhaustion or boredom. Authors of the three measurement instruments had approved use of the three measurement tools as created, therefore modifications or revisions of their measurement tool was not permitted. Participant recruitment was limited due to minimal incentive to complete the survey or lack of interest in the survey. Limitation of generalizability was identified due to the number of participants, level of education of the participants, and the occupations represented. Employees of the acute care facilities and the non-healthcare site both require higher levels of education for the type of employment, therefore potentially skewing the results to higher scores which may not be generalizable to the general public.

## **Chapter 4. Results**

This chapter presents the results from the completed quantitative descriptive design study using cross-sectional survey method. A discussion of the sample, study results, data analysis, and summary of the results will be included.

### **Research Approval**

This study was conducted in the southern Nevada area at three different locations the Cleveland Clinic Lou Ruvo Center for Brain Health (pilot study), The College of Southern Nevada (control) and Dignity Health Las Vegas and Henderson campuses. The Institutional Review Board for the University of Hawai'i approved a two-phase study in March 2015 which approved the preliminary pilot study and the proposed study. The authors for the measurement instruments granted approval for use of their instruments fall of 2014 and spring of 2015.

The Dignity Health acute care facility required their corporate Institutional Review Board to approve research conducted at their facility. Dignity Health (DH) granted approval for this study spring of 2016, approval for the non-healthcare site at The College of Southern Nevada was granted fall of 2016.

### **Research Sites**

A preliminary pilot study was performed in the spring of 2015 at the Cleveland Clinic Lou Ruvo Center for Brain Health (CCLR) to determine feasibility of the 100-item survey. The CCLR clinic provides outpatient care for patients with neurological conditions such as Parkinson's disease, Alzheimer's disease, Lewy Body dementia, Huntington's disease, and Multiple Sclerosis. Data feedback from the pilot study revealed the need to omit the survey's

demographic question inquiring zip code and to add a question to determine a respondents' experience with AD or dementia.

The approved research study was conducted in the spring of 2017 at two southern Nevada area locations. The healthcare group was identified as employees of an acute care facility, the Dignity Health (DH) St. Rose campuses in Las Vegas and Henderson, Nevada. This acute care facility provides emergency room, general surgery, heart and vascular care, labor and delivery, neurological care, orthopedics, and cancer care. The healthcare group participants were employees from all departments.

The non-healthcare site was The College of Southern Nevada (CSN) this institution provides collegiate education to students seeking certificates of completion, associate degree or bachelor's degree. The non-healthcare group participants were employees from a variety of departments, excluding all employees from the health sciences department. The participants from the CSN research site represented the non-healthcare employees group.

## **Sample**

A convenience sample of participants was solicited via employer electronic mail to voluntarily participate in an online survey. Participants were notified to the nature of the survey, the number of questions in the survey, and the opportunity to end the survey at any time. Participants who did not complete all three measurement tools were not included in the final analysis.

Table 1  
*Response Rate*

	#Respondents / #Employees	Response Rate
CCLR	28 / 90	31.1%
DH	103 / 3800	2.7%
CSN	102 / 3500	2.9%

**Description of participants.** The targeted participants were employees over the age of 18 years old from the research sites with an affiliation agreement with University of Hawai'i at Manoa. Employee occupations from the CCLR pilot group included medical assistant, research coordinator, registered nurse, nurse practitioner, social worker, radiology technologist, administration, and physician.

Employee occupations from the healthcare DH group included registered nurse, licensed practical nurse, nurse practitioner, certified nursing assistant, radiology technologist, physical therapist, occupational therapist, social worker, neuro-diagnostic technician, pharmacist, phlebotomist, surgery scheduler, microbiology supervisor, and many other ancillary providers in the acute care facilities. See table 2 for participant demographics.

Employee occupations from the non-healthcare CSN group included full time faculty, part time faculty, adjunct faculty, administration, classified employee, and contract staff from departments such as Accounting, Administration, Astronomy, Biology, Business, Chemistry, Education, Engineering, English, Computer and Network technology, Photography, and Transportation technology to name a few.

Table 2  
*Survey Demographics*

		DH	CSN	CCLR
Gender	Male	16	45	5
	Female	87	57	21
Age	< 39	22	21	7
	40-59	58	56	15
	>60	23	21	4
Ethnicity	Asian or Pacific Islander	18	2	2
	Black of African American	5	6	0
	Hispanic or Latino	5	12	2
	White / Caucasian	69	77	18
	Prefer not answer	4	2	2
	Other	2	3	2
Education	High School / Associate	24	9	-
	Bachelor's Degree	38	21	-
	Master's /Doctorate Degree	40	72	-
Experience with Dementia	No Experience	13	33	-
	Work with AD or dementia	45	3	-
	Personal experience AD or dementia	45	66	-
Years in healthcare	< 9	14	na	6
	10-19	35	na	5
	>20	53	na	14
Direct or Non-Contact	Direct Contact	72	na	22
	Non-Contact	31	102	3

DH-Dignity Health; CSN-College of Southern; CCLR-Cleveland Clinic Lou Ruvo center;  
- not recorded, na: not applicable

**Excluded participants.** Complete surveys were included in the data analysis. Survey responses were excluded if they were incomplete or if demographic information was missing. The DH group had a total of 120 individuals open the survey, n = 17 of incomplete surveys were omitted. The CSN control group had 216 individuals open the survey, n = 115 of incomplete surveys were omitted.

**Handling of missing data.** Participants who omitted up to 3 missing responses in the CCA measurement tool were included because the CCA tool allowed the omitted responses to be calculated as a “no opinion” response or a score of “0,” the final score of each CCA subscale was calculated by adding all scored items and dividing by the number of items answered.

## **Results**

The study aim was to examine tertiary healthcare providers in an acute care facilities and measure their cultural competence, attitude towards dementia, and AD knowledge. Criterion for high quality dementia care was based on suggestions made by previous studies. Kimzy, Mastel-Smith, & Alfred (2016) suggested that improved knowledge and attitudes might lead to improved care for people with AD. Other studies have sited that in addition to knowledge and attitude, that cultural competence effects delivery of healthcare. According to Benkert et al., (2011), Schim, Doorenbos, & Borse (2005), and Starr & Wallace (2009) cultural competence in healthcare providers can eliminate health disparities for vulnerable populations. Collectively, culture, attitude, and knowledge of AD patients are identified as important to meeting aging and healthcare needs of these vulnerable individuals who are at risk for health disparities (Doorenbos, Schim, Benkert & Borse, 2005; Kimzey, Mastel-Smith & Alfred, 2016; Benkert, Templin, Schim, Doorenbos & Bell, 2011; Schim, Doorenbos, & Borse, 2005; Starr & Wallace, 2009; Rovner, Casten & Harris, 2013).

Research question (1): Do tertiary healthcare providers in an acute care facilities have the elements of cultural competence, positive attitude and AD knowledge to provide high quality AD care? The study revealed the DH group exhibits elements of cultural competence, positive attitude, and knowledge of AD based on the results from the CCA, DAS, and ADKS.

Research question (2) involved comparing the assessment results of the tertiary healthcare providers with the results of the non-healthcare employees. Specific questions were (2a): Do tertiary healthcare providers have greater cultural competence compared to the non-healthcare employees? (2b): Do tertiary healthcare providers have greater positive attitudes towards dementia compared to non-healthcare employees? (2c): Do tertiary healthcare providers have sufficient knowledge of AD compared to non-healthcare employees?

**Survey results.** A comparison of means included the Cultural Competence Assessment question #5, the CAS mean, the CCB mean, the MCSDS, the DAS and AKDS. The results for the research groups are displayed on table 3.

Table 3  
*Comparison of Means*

Group		CCA5	CAS	CCB	MCSDS	DAS	ADKS
DH	DH Mean	4.40	5.88	5.00	8.96	108.25	24.20
	n	103	103	103	103	103	103
	Std. Deviation	.809	.510	1.117	2.481	13.308	3.091
	Range	1-5	4-7	2-7	2-13	72-140	16-30
	SE	.079	.050	.110	.244	1.311	.304
CSN	CSN Mean	4.55	5.90	4.24	7.96	99.39	24.29
	n	102	102	102	102	102	102
	Std. Deviation	.574	.831	1.403	2.908	14.804	3.460
	Range	3-5	0-7	0-7	0-12	70-137	15-30
	SE	.056	.082	.139	.288	1.465	.342
CCLR	CCLR Mean	4.46	6.01	5.13	8.54	119.96	26.04
	n	26	26	26	26	26	26
	Std. Deviation	.508	.607	.966	2.121	12.657	2.341
	Range	4-5	5-7	3-7	3-12	89-138	20-30
	SE	.099	.119	.189	.415	2.482	.459

DH-Dignity Health; CSN-College of Southern Nevada; CCLR-Cleveland Clinic Lou Ruvo center; CCA5-CCA question number 5; CAS-Cultural Awareness Subscale; CCB-Cultural Competent Behavior Subscale; MCSDS-Marlowe-Crowne Social Desirability Scale; ADKS-Alzheimer's disease Knowledge Scale; n = sample; SE = Standard Error.



Analysis of the ADKS questions in table 4 revealed which questions were answered correctly and incorrectly which determined which domains needed to be addressed. The score results of the three sites were compared and domains with low scores (scores below 75%) were identified. These domains included: course of disease, caregiving, and risk factors. Three questions were identified with exceptionally low scores (scores below 75%) for all three-survey sites: question 2) It has been scientifically proven that mental exercise can prevent a person from getting Alzheimer's disease. Question 18) having high cholesterol may increase a person's risk of developing Alzheimer's disease. Question 26) having high blood pressure may increase a person's risk of developing Alzheimer's disease. All three research sites answered these questions incorrectly.

Table 4

*Alzheimer's Disease Knowledge Scale*

	Domain	DH	CSN	CCLR
1. People with Alzheimer's disease are particularly prone to depression. (T)	LI	87.5(.33)	82.1(.38)	69.2(.47)
2. It has been scientifically proven that mental exercise can prevent a person from getting Alzheimer's disease. (F)	RF	50.1(.50)	60.7(.49)	61.5(.50)
3. After symptoms of Alzheimer's disease appear, the average life expectancy is 6-12 years. (T)	CO	70.8(.46)	61.7(.48)	46.1(.50)
4. When a person with Alzheimer's disease becomes agitated, a medical examination might reveal other health problems that caused the agitation. (T)	AD	94.2(.23)	90.2(.30)	100(0)
5. People with Alzheimer's disease do best with simple instructions given one step at a time. (T)	CG	96.1(.19)	93.1(.25)	100(0)
6. When people with Alzheimer's disease begin to have difficulty taking care of themselves, caregivers should take over right away. (F)	CG	75.9(.43)	67.6(.47)	92.3(.27)
7. If a person with Alzheimer's disease becomes alert and agitated at night, a good strategy is to try to make sure that the person gets plenty of physical activity during the day. (T)	CG	90.3(.30)	80.4(.40)	100(0)
8. In rare cases, people have recovered from Alzheimer's disease. (F)	CO	87.3(.33)	82.3(.38)	100(0)
9. People whose Alzheimer's disease is not yet severe can benefit from psychotherapy for depression and anxiety. (T)	TM	89.3(.31)	90.2(.29)	96.1(.20)
10. If trouble with memory and confused thinking appears suddenly, it is likely due to Alzheimer's disease. (F)	AD	88.1(.33)	84.3(.36)	96.1(.20)
11. Most people with Alzheimer's disease live in nursing homes. (F)	LI	85.2(.35)	91.1(.30)	92.3(.27)
12. Poor nutrition can make the symptoms of Alzheimer's disease worse. (T)	TM	93(.25)	91.1(.30)	100(0)
13. People in their 30s can have Alzheimer's disease. (T)	RF	74.7(.44)	82.1(.38)	65.4(.49)
14. A person with Alzheimer's disease becomes increasingly likely to fall down as the disease gets worse. (T)	CO	86.4(.34)	75.2(.43)	84.6(.37)
15. When people with Alzheimer's disease repeat the same question of story several times, it is helpful to remind them that they are repeating themselves. (F)	CG	76.6(.42)	79.2(.40)	92.3(.27)
16. Once people have Alzheimer's disease, they are no longer capable of making informed decisions	CG	70.6(.46)	78.2(.41)	92(.33)

about their own care. (F)

	Domain	DH	CSN	CCLR
17. Eventually, a person with Alzheimer's disease will need 24-hour supervision. (T)	CO	85.3(.35)	85.3 (.36)	80.7 (40)
18. Having high cholesterol may increase a person's risk of developing Alzheimer's disease. (T)	RF	51.9(.50)	55.4 (.50)	69.2 (.47)
19. Tremor or shaking of the hands or arms is a common symptom in people with Alzheimer's disease. (F)	SY	71.5(.45)	73.2 (.44)	88.4 (.33)
20. Symptoms of severe depression can be mistaken for symptoms of Alzheimer's disease. (T)	AD	89.2(.31)	83.1 (.38)	80.7 (.40)
21. Alzheimer's disease is one type of dementia. (T)	AD	93.1(.25)	90.2 (.31)	92.3 (.27)
22. Trouble handling money or paying bills is a common early symptom of Alzheimer's disease. (T)	SY	71.6(.45)	75.4 (.43)	84.6 (.37)
23. One symptom that can occur with Alzheimer's disease is believing that other people are stealing one's things. (T)	SY	86.2(.34)	85.2 (.36)	96.1 (.20)
24. When a person has Alzheimer's disease, using reminder notes is a crutch that can contribute to decline. (F)	TM	95.1(.22)	94.1 (.24)	96.1 (.20)
25. Prescription drugs that prevent Alzheimer's disease are available. (F)	RF	67.6(.47)	82.3 (.38)	88.5 (.33)
26. Having high blood pressure may increase a person's risk of developing Alzheimer's disease. (T)	RF	54.4(.50)	59.4 (.49)	69.2 (.47)
27. Genes can only partially account for the development of Alzheimer's disease. (T)	RF	90.2(.29)	93.1 (.25)	92.3 (.27)
28. It is safe for people with Alzheimer's disease to drive, as long as they have a companion in the care at all times. (F)	LI	86.2(.34)	87.3 (.33)	92.3 (.27)
29. Alzheimer's disease cannot be cured. (T)	TM	96(.20)	94.1 (.24)	88.5 (.32)
30. Most people with Alzheimer's disease remember recent events better than things that happened in the past. (F)	SY	81.1(.39)	90.1 (.30)	100 (0)

*Notes.* Value in %, ( ) = Standard deviation. AD = Assessment diagnosis, CO = Course, CG = Caregiving, LI = Life impact, RF = Risk factors, SY = Symptoms, TM = Treatment and management

## **General Linear Model Analysis**

**Description of Variables.** Participants from research sites DH, CSN, and CCLR completed demographic information at the end of the survey. Independent variables (IV) analyzed in SPSS included gender, age, ethnicity, education, personal experience with AD, number of years in the healthcare profession, and direct/non-direct contact with AD patients. Not all of the IVs were applicable to the three study sites.

Dependent variables included CCA5 (Cultural Competence Assessment question number 5), CAS mean, CCB mean, MCSDS, DAS and ADKS. These scores were tabulated on an Excel spreadsheet, where all the raw responses were coded according to the responses and the measurement instrument.

Data collected were reviewed and screened for survey completion, incomplete surveys were omitted from the analysis. Preliminary analyses (total scores, means, standard deviations and percentages) answers were performed using Excel. Subsequent analyses were performed using SPSS Statistics 24. Statistical analysis included general linear model (GLM) using multivariate and univariate analysis with follow up post-hoc tests on univariate analysis using Bonferroni and Student-Newman-Keuls (SNK) tests.

**MANCOVA.** Multivariate analysis of covariance (MANCOVA) was conducted on six dependent variables (DV) and eight independent variables (IV) in this study. MANCOVA has several benefits, it is able to analyze relationships between dependent variables as well as differences among groups while at the same time controlling for covariates of interest (Tabachnick & Fidell, 2013). The process of measuring several DVs at once, aids the researcher in discovering what changes are a result of different treatments and their interactions.

MANCOVA also benefits the researcher by decreasing the probability Type I error relative to running multiple univariate tests separately. The MANCOVA analysis eliminates the covariates' effect on the relationship between the independent grouping variable and the continuous dependent variables. (Tabachnick & Fidell, 2013).

Demographic categories (e.g. ethnicity) were consolidated a category contained two or fewer participants to allow for sufficient statistical power. This was applied to the following IVs: age, ethnicity, education, and years of healthcare experiences. For example, the demographic-age questioned the participant to which age category they belonged to: 20 and younger, 21-29, 30-39, 40-49, 50-59, 60-69, 70-79, and 80 or greater. This large number of categories created uneven samples, some categories only had 2 participants in that category. Therefore, the age categories were condensed to 3 groups with a broader age range, for example 39 and younger was coded as group 1, 40-59 was coded as group 2, and 60-older was coded as group 3.

General linear model was selected in SPSS using multivariate analysis for several IV's. Independent variables such as "group" and "direct contact-noncontact" were placed as fixed factors; independent variables such as "gender, age, ethnicity, education, and AD experience" were placed as covariates. Placing all the DVs and the IVs into the GLM multivariate program did not produce a discernable output. Therefore, two MANCOVA's were performed, one for the DVs for the CCA (CCA question number 5, CAS, CCB, and MCSDS) and a second for the DAS and ADKS. Pillai's Trace is one of several multivariate statistics in SPSS that test significance of main effects and interactions. Table 4 and Table 5 display the Pillai's Trace value, F value, degrees of freedom, significance value, partial eta squared, effect size and the statistical power. The MANCOVA analysis revealed there was significant effects based on five independent

variables: gender, ethnicity, group, direct contact and noncontact group, and the AD experience.

Table 6 and Table 7 display the tests between-subjects effects for the DV and the predictors.

Univariate analyses were performed for those factors shown to be significant in the multivariate analysis. Levene's test results indicated violations of the homogeneity of variances assumption in two cases (DV = DAS, IV = group & AD experience; DV = CCB, IV = group), however ANOVA was robust with regards to this assumption (Tabachnick & Fidell, 2013). The tests of gender differences similarly violated the homogeneity assumption, however this was corrected by using the t-values corresponding to "homogeneity of variances not assumed" option in the SPSS output, see Table 9. ANOVA analysis are presented in Table 8.

Table 5

*Significant MANCOVA group differences ( $p < .05$ ) for predictors group and direct contact and noncontact with covariate of gender, age, and ethnicity of DH, CSN, and CCLR.*

Dependent Variable	Independent Variable	Pillai	F	Df	$p$	Partial $\eta^2$	Effect	Power
CCA5, CAS, CCB, MCSDS								
	Gender	.075	4.356	4, 215	.002	.075	Small	.930
	Ethnicity	.090	5.316	4, 215	.000	.090	Medium	.970
	Group	.074	2.071	8, 432	.037	.037	Small	.837
DAS, ADKS								
	Gender	.034	3.761	2, 217	.025	.034	Small	.683
	Ethnicity	.073	8.532	2, 217	.000	.073	Small	.965
	DirecContNON	.028	3.075	2, 217	.048	.028	Small	.589

Notes: DirecContNON = Direct contact group and non-contact group from DH and CSN.

Table 6

*Significant MANCOVA group differences ( $p < .05$ ) for predictors group and direct contact and noncontact with covariate gender, age, ethnicity, education, AD experience of DH, CSN, and CCLR.*

Dependent Variable	Independent Variable	Pillai	F	Df	$p$	Partial $\eta^2$	Effect	Power
CCA5, CAS, CCB, MCSDS								
	Gender	.084	4.354	4, 189	.002	.084	Small	.929
	Ethnicity	.088	4.573	4, 189	.002	.088	Small	.941
	Group	.052	2.569	4, 189	.039	.052	Small	.717
DAS, ADKS								
	Gender	.037	3.687	2, 191	.027	.037	Small	.672
	Ethnicity	.071	7.254	2, 191	.001	.071	Small	.933
	AD exp	.070	7.183	2, 191	.001	.070	Small	.931
	Group	.034	3.378	2, 191	.036	.034	Small	.632



Table 7

*Significant MANCOVA group differences ( $p < .05$ ) of Tests of between-subjects effects for predictors group and direct contact and noncontact with covariate of gender, age, ethnicity of DH, CSN, and CCLR.*

Dependent Variable Group	Independent Variable	Specific DV	Type III Sum of Squares	F	Df	$p$	Partial $\eta^2$	Power
CCA5, CAS, CCB, MCSDS	Gender	CCA5	2.194	4.680	1, 218	.032	.021	.577
		CCB	14.417	9.662	1, 218	.002	.042	.872
	Ethnicity	CAS	4.498	9.945	1, 218	.002	.044	.881
		MCSDS	46.118	6.955	1, 218	.009	.031	.747
DAS, ADKS	Gender	DAS	908.258	4.749	1, 218	.030	.021	.583
		ADKS	42.013	4.535	1, 218	.034	.020	.564
	Ethnicity	ADKS	158.104	17.067	1, 218	.000	.073	.984
	DirecContNon Group	ADKS	36.571	3.948	1, 218	.048	.018	.507
		DAS	840.637	4.395	1, 218	.037	.020	.551

Table 8

*Significant MANCOVA group differences ( $p < .05$ ) of Tests of between-subjects effects for predictors group and direct contact and noncontact with covariate of gender, age, ethnicity, education, and AD experience of DH, CSN, and CCLR.*

Dependent Variable group	Independent Variable	Specific DV	Type III Sum of Squares	F	Df	$p$	Partial $\eta^2$	Power
CCA5, CAS, CCB, MCSDS	Gender	CCA 5	2.957	6.134	1, 192	.014	.031	.693
		CCB	13.027	8.355	1, 192	.004	.042	.820
	Ethnicity	CAS	4.209	9.124	1, 192	.003	.045	.852
		MCSDS	30.711	4.407	1, 192	.037	.022	.551
	AD Exp Group	CCA 5	2.110	4.376	1, 192	.038	.022	.548
		CCB	7.790	4.979	1, 192	.027	.025	.603
		MCSDS	28.701	4.119	1, 192	.044	.021	.524
DAS, ADKS	Gender	DAS	767.161	4.087	1, 192	.045	.021	.521
		ADKS	47.428	4.868	1, 192	.029	.025	.593
	Ethnicity	ADKS	141.907	14.564	1, 192	.000	.071	.967
	AD Exp	DAS	2500.484	13.322	1, 192	.000	.065	.953
	Group	DAS	1060.617	5.651	1, 192	.018	.029	.657

Table 9

*ANOVA results of significant group differences ( $p < .05$ ) of means (SD) based on predictors of DH, CSN, and CCLR.*

DV	Group		DH (SD)	CSN (SD)	CCLR (SD)
CCA 5	Work w/ AD		4.27 (1.009)	4.67 (.577)	-
	Have personal AD exp		4.53 (.548)	4.62 (.548)	-
CCB			5.00 (1.117)	4.24 (1.403)	5.13 (.966)
MCSDS	Total		8.96 (2.481)	7.96 (2.908)	8.54 (2.121)
	Ethnicity	White or Caucasian	8.88 (2.518)	7.42 (2.830)	8.00 (2.223)
		Asian or PI	9.61 (2.062)	11.50 (.707)	10.50 (2.121)
DAS	Total		108.25 (13.308)	99.39 (14.804)	119.96 (12.657)
	Work w/ AD		112.13 (11.549)	116.67 (27.791)	-
	No experience w/ AD		97.62 (14.643)	91.45 (9.206)	-
ADKS	Total		24.20 (3.091)	24.29 (3.460)	26.04 (2.341)
	Direct Contact		24.28 (3.132)	-	26.50 (2.018)
	Non-Contact		24.03 (3.038)	24.29 (3.460)	24.33 (2.517)
	Ethnicity	White or Caucasian	24.91 (2.843)	24.94 (3.205)	26.61 (1.787)
		Asian or PI	22.11 (3.027)	18.00 (1.414)	26.00 (2.828)
		Hispanic or Latino	23.00 (3.00)	22.25 (2.989)	23.50 (4.950)

Note: -not recorded; AD-Alzheimer's Disease; PI-Pacific Islander

Table 10

*Significant Independent T-test results for the predictor gender: male and female of DH, CSN, and CCLR.*

Dependent Variable	Males (n = 66)	Females (n = 165)	t-test for Equality of Means		
	Mean (SD)	Mean (SD)	t	Df	p
CCA 5	4.65 (.568)	4.40 (.714)	2.555	229	.011
CCB	4.11 (1.283)	4.9 (1.230)	-4.391	229	.000
DAS	100.36 (16.101)	107.78 (14.563)	-3.389	229	.001
ADKS	23.68 (3.375)	24.76 (3.124)	-2.310	229	.022

Table 11  
*ADKS based on Ethnicity*

Ethnicity	Group	Mean	Std.	N
			Deviation	
Asian or Pacific Islander	DH	22.11	3.027	18
	CSN	18.00	1.414	2
	CCLR	26.00	2.828	2
	Total	22.09	3.308	22
Black or African American	DH	22.80	4.087	5
	CSN	23.83	4.956	6
	Total	23.36	4.388	11
Hispanic or Latino	DH	23.00	3.000	5
	CSN	22.25	2.989	12
	CCLR	23.50	4.950	2
	Total	22.58	3.006	19
White or Caucasian	DH	24.91	2.843	69
	CSN	24.94	3.205	77
	CCLR	26.61	1.787	18
	Total	25.11	2.962	164
Prefer not to answer	DH	24.75	3.304	4
	CSN	20.50	2.121	2
	CCLR	27.00	.000	2
	Total	24.25	3.412	8
Other	DH	24.00	1.414	2
	CSN	23.67	2.082	3
	CCLR	22.50	2.121	2
	Total	23.43	1.718	7
Total	DH	24.20	3.091	103
	CSN	24.29	3.460	102
	CCLR	26.04	2.341	26
	Total	24.45	3.227	231

## **Summary of Results**

This study revealed tertiary healthcare providers at the DH study site possess elements of high quality AD care based on three measurement instruments which measured cultural competence, dementia attitude and AD knowledge. Tertiary healthcare providers in this study self-reported feeling somewhat comfortable to very comfortable when working with people from different cultures, they were aware and were sensitive to other cultures, and they practiced culturally competent behaviors, and have a need to seek approval. These tertiary healthcare providers have demonstrated possessing greater positive attitudes towards people with dementia or AD compared to non-healthcare employees. The tertiary healthcare providers in this study had equivalent knowledge of AD compared to non-healthcare employees. Sixty-four percent of the non-healthcare employees reported “having personal experience with family or friends with dementia or AD” compared with 39% of tertiary healthcare providers “having personal experience with family or friends with dementia or AD.” The tertiary healthcare providers who have direct contact with AD patients demonstrated more AD knowledge compared to those who do not have direct contact with AD patients.

## **Chapter 5. Discussion**

This section will discuss the findings of this study compared with published articles that have used the same measurement instruments. The conclusion, findings, strengths, weaknesses, limitations to this study, implications, and recommendations from this study will be addressed.

The acute care facilities will encounter admissions of elderly people with a diagnosis of AD or dementia. Tertiary healthcare providers will provide care through direct contact with these patients. Criterion for high quality dementia care was based on suggestions made by previous studies. Kimzey, Mastel-Smith, & Alfred (2016) suggested that improved knowledge and attitudes might lead to improved care for people with AD. According to Benkert et al., (2011), Schim, Doorenbos, & Borse (2005), and Starr & Wallace (2009) cultural competence in healthcare providers can eliminate health disparities for vulnerable populations. Collectively, culture, attitude, and knowledge of AD patients were identified as important factors to meeting aging and healthcare needs of these vulnerable individuals who are at risk for health disparities (Doorenbos, Schim, Benkert & Borse, 2005; Kimzey, Mastel-Smith & Alfred, 2016; Benkert, Templin, Schim, Doorenbos & Bell, 2011; Schim, Doorenbos, & Borse, 2005; Starr & Wallace, 2009; Rovner, Casten & Harris, 2013).

This study has identified literature that supports elements of high quality AD care which include cultural competence, positive dementia attitudes, and sufficient AD knowledge. This study has demonstrated that the DH site tertiary healthcare providers possess the elements of high quality AD care measured by the CCA, DAS, and the ADKS instruments.

## **Cultural Competence Assessment**

Prior studies have measured cultural competence with public health nurses using the CCA measurement tool. Star and Wallace (2009) published results from 31 public health nurses who completed the CCA, their scores were CAS M = 5.98, CCB M = 4.37. The DH group scored slightly lower with CAS M = 5.88 (SD = .510) in this study, but had significantly higher CCB m = 5.00 (SD = 1.117) scores than the public health nurses CCB score in the Star and Wallace (2009) study. Benkert, et al. (2011) published CCA scores from underrepresented nurse practitioners, these nurse practitioners were males and females from ethnic backgrounds including Asian American, African American, and non-Hispanic whites. Benkert et al (2011) revealed the scores of the underrepresented nurse practitioners were CAS M = 5.52 (SD = 41), CCB M = 4.68 (SD = 1.02) and MCSDS M = 7.31 (SD = 3.02). The DH group results from this study scored higher CAS M = 5.88 (SD = .510), CCB M = 5.00 (SD = 1.117), MCSDS M = 8.96, (SD = 2.481) in all three CCA subscales compared to the nurse practitioners in Benkert et al. (2011) study. A study by Cicolini, et al (2015) reported scores from Italian nurses CAS M = 5.41 (SD = 0.66) and CCB M = 4.33 (SD = 1.10). The DH group score CAS M = 5.88 (SD = .510) and CCB M = 5.00 (SD = 1.117) scored higher than the Italian nurses in both subscales.

The respondents from the DH group may have higher awareness and sensitivity to cultures due to the mandatory online modules DH employees must complete on a yearly basis. The topic of cultural diversity and sensitivity are presented in these online modules. The modules are assigned to all employees who are considered clinical nursing personnel. Subjects discussed in the modules include patient rights, non-discrimination policy, effective patient and family communication, cultural and spiritual needs, use of an interpreter, population-specific care and



providing individualized care (Saint Rose Dominican Hospital, 2017, “Annual Mandatory Education: Clinical Nursing Personnel”).

### **Dementia Attitude Scale**

Providing high quality AD care involves having positive attitudes towards the patients with AD or dementia. This study revealed DH group DAS score  $m = 108.25$  ( $SD = 13.308$ ) was significantly higher than the nursing students DAS score  $M = 103.51$  ( $SD = 13.43$ ) in the published study by Scerri and Scerri (2013). The study by Kimzy, Mastel-Smith, and Alfred (2016) measured nursing students’ dementia attitude pre and post a dementia specific intervention. The nursing students’ DAS score were prior to a dementia specific intervention was comparable to the DH DAS score. The nursing students pre-intervention DAS score was  $M = 108.15$ , after the dementia specific intervention their post-intervention DAS score increased to  $M = 112.73$  (Kimzy, Mastel-Smith & Alfred, 2016). In the O’Connor and McFadden (2010) the undergraduate psychology students scored DAS  $M = 98.64$  ( $SD = 12.82$ ), the DH group’s DAS scores were higher  $M = 108.25$  ( $SD = 13.308$ ) in comparison. There were no literature of healthcare professionals’ attitude measured with the DAS instrument.

The employees in the DH group are required to complete mandatory online modules to increase the employees’ awareness to provide population-specific and individualized care on a yearly basis. The DH group is considered representatives of the DH not-for-profit public-benefit corporation that had launched a new marketing campaign titled “Hello Humankindness.” The employees were provided a four-hour in-service to what “humankindness” means and to be aware of the impact of these actions. The corporate campaign may have influenced the DH

employees to have more positive attitudes towards all patients which may explain the groups' higher DAS score.

**Alzheimer's Disease Knowledge Scale.** Results from this study's ADKS score was compared with literature reporting ADKS scores from healthcare professionals. The DH group ADKS score  $M = 24.20$  ( $SD = 3.091$ ) demonstrated the tertiary healthcare providers possessed sufficient knowledge of AD. The study conducted by Carpenter et al. (2009) reported senior center staff ADKS score  $M = 20.15$  ( $SD = 4.10$ ), dementia caregivers  $M = 22.70$  ( $SD = 4.27$ ), and dementia professionals  $M = 27.4$  ( $SD = 1.89$ ). The DH group scored higher than the caregivers and slightly lower than the dementia professionals. A study conducted by Smyth et al. (2013) measured ADKS in healthcare staff in Queensland, Australia found that their ADKS score  $M = 23.6$  ( $SD = 3.26$ ), which is lower than the DH score  $M = 24.20$  ( $SD = 3.091$ ). A study by Nordhus, Siversten, and Pallesen (2011) reported that Norwegian Psychologists ADKS score  $M = 24.10$  ( $SD = 2.5$ ), the DH group scored slightly higher than the Norwegian Psychologists.

Some studies explored ADKS with different ethnicities, such as Carpenter et al. (2011) and Rovner, Casten, and Harris (2013). Carpenter et al. (2011) reported scores of ADKS based on ethnicity, Whites  $M = 22.50$ , Blacks  $M = 21.35$ , Asians  $M = 19.21$ , and multi-racial  $M = 19.60$ . The study conducted by Rovner, Casten, and Harris (2013) reported ADKS scores of older African Americans with  $M = 18.7$  ( $SD = 3.7$ ). The ADKS scores in this study based on ethnicity for the three research sites are displayed on Table 10. According to this study's findings, the DH group scores for the Asian or Pacific Islander, Black or African American, and White or Caucasian are all higher than those ethnicities in the Carpenter et al. (2011) and Rovner, Casten, and Harris (2013) studies.

## **Findings**

Tertiary healthcare providers in an acute care facility will encounter patients diagnosed with Alzheimer's disease (AD) or dementia. The individual who has AD or dementia will identify with a culture or an ethnic group. High quality AD care will include acknowledgement of the patient's cultural preferences, having positive attitude towards patients with AD or dementia, and having sufficient knowledge on how to care for these vulnerable individuals. In this study, an acute care facility was assessed on whether their tertiary healthcare providers have the elements of providing high quality AD care. The study found tertiary healthcare providers at the DH study site possessed elements of high quality AD care.

Statistical analysis of multivariate and univariate tests identified several significant differences among the three research sites and the independent variables were presented. Significant relationships among the dependent variables (CCA5, CAS, CCB, MCSDS, DAS, and ADKS) were not found in the independent variables of education or number of years in the healthcare profession. Typically, education or number of years in a particular profession increases a person's knowledge level within that profession. This study did not support this assumption.

## **Strengths**

A strength of this study was the number of respondents who participated in the electronic survey which provided sufficient statistical power. Several comparisons were made between the three groups. This study is the first of its kind to examine tertiary healthcare providers and non-healthcare employees utilizing three quantitative measurement instruments. This study's findings added to the body of knowledge for CCA, DAS, and ADKS measurement tools. This is the first

study to identify significant differences of means according to the group, direct or non-direct contact, AD experience, ethnicity, and gender.

### **Weaknesses**

The weaknesses of this study included the total number of survey questions and the variation of demographic questions between the pilot study site and the two research sites (DH and CSN). Modifications had to be made to the demographic section based on the feedback from the CCLR pilot group. For example, a survey question was omitted (zip code) due to irrelevancy to the study and an additional survey question was added to inquire experience with AD or dementia. This question was queried with DH and CSN, but not the CCLR group which created an absence of this independent variable's value for CCLR. Another weakness of the study was the location of the demographic questions which was at the end of the survey. Several participants found the survey too lengthy, had lost interest, exited the survey prematurely and did not complete the demographic section.

### **Limitations of the Study**

Limitations identified in this study included: survey design, participant recruitment, and generalizability. The survey design required participants to complete a lengthy 100-item electronic survey. The survey questions were designed to be one sentence long, which made it easy to read, yet the number of questions made it arduous to complete in one sitting.

Participant recruitment had some challenges. Affiliation agreements and Institutional Review Board (IRB) approvals were created between the educational institution and the research sites (DH, CSN, and CCLR) prior to commencement of this study. Regardless of the established affiliation agreements and IRB approvals, additional campus approval was required at the DH

site prior to the electronic invitation to be sent to all employees. The researcher contacted the DH director of education and was not allowed to electronically invite participants. Then the researcher contacted the DH Chief Executive Officer and was granted approval for the electronic invitation.

Another challenge identified was completion of surveys from the CSN location, it took 217 individuals to open the electronic survey to yield a final  $n = 102$  over a course of 8 weeks. A total of 120 DH individuals opened the electronic survey with a yield of  $n = 103$  over a course of 4 weeks. There was greater completion rate at DH (86%) versus CSN (47%) with half the time.

All the participants from the DH group, CSN control group, and the CCLR pilot group had obtained some level of education to be employed in their current position. The results could be difficult to generalize to entire populations due to the educational bias. These results could be generalized to other acute care facilities because these settings are comprised of similar tertiary healthcare providers with similar levels of education.

## **Implications**

**Impact.** Results of this study can have a significant impact on acute care facilities and methods of training tertiary healthcare providers. The elderly patients diagnosed with AD or dementia who are admitted to acute care facilities will benefit from tertiary healthcare providers who are knowledgeable and prepared on handling this vulnerable population to meet their cultural needs. An acute care facilities that is aware of their AD patients' needs who have healthcare providers with positive attitudes, are culturally competent and are knowledgeable of AD will exceed the goals of the Dementia Friendly America initiative. Dementia Friendly America is an initiative developed to bring dementia awareness to local communities and

businesses that affect lives of AD patients and their caregivers (Alzheimer's Association, 2017).

An acute care facility prepared to meet the needs of the AD or dementia patient who provide inclusive cultural care will make a positive impact on these patients and their caregivers.

**Contributions.** This study has contributed to the body of knowledge of tertiary healthcare providers who care for AD patients in acute care facilities. This knowledge can be applied to the educational development of those in direct contact and indirect contact of AD patients at the acute care facilities. This study is the first of its kind to provide quantitative numerical values to tertiary healthcare providers ability to provide high quality AD care in an acute care facilities. This study has added to the body of knowledge for each of the measurement instruments (CCA, DAS, and the ADKS).

### **Recommendations**

Future research should include additional participation from licensed independent practitioners (physicians, physician assistants, nurse practitioners, certified registered nurse anesthetists, and clinical nurse specialist) to gain broader understanding of all healthcare providers and whether they are culturally competent, have positive dementia attitude, and adequate knowledge of AD. Studies have demonstrated healthcare providers who have undergone formal studies may lack sufficient competence in caring for patients of other cultures, they may have negative attitudes towards patients with dementia or AD, and may not have sufficient knowledge on how to handle patients with AD.

Acute care facilities have a workforce comprising of nurses, physicians, therapists, social workers, and a wide variety of ancillary support, and administration. All employees of the acute care facilities must complete yearly mandatory education to be compliant with hospital

regulations and accrediting body regulations such as Joint Commission. Inclusion of dementia education as part of the yearly mandatory education can ensure all tertiary healthcare providers receive consistent information.

### **Conclusions**

Alzheimer's disease affects millions of people regardless of ethnic or racial background. The financial impact of caring for AD patients will be astronomical. According to Alz.org the cost for AD or dementia care for 2017 is estimated to be \$259 billion dollars for our nation. People with dementia or AD may be hospitalized in an acute care facilities for reasons such as dehydration, fall, infection or disruptive behavior. Tertiary healthcare providers at the acute care facilities need to be better prepared and knowledgeable on how to care for this vulnerable population. Acute care facilities are fast paced with technical equipment and invasive procedures that may frighten and disorient patients with AD or dementia. The AD or dementia patient who speak and understand their own native language, may not understand instructions given to them if it is in a foreign language. Tertiary healthcare providers need to understand how to handle these situations by providing individualized care that addresses their cultural needs.

The Dementia Friendly America is an initiative by the Alzheimer's Association to create communities in America that are friendly towards people with AD and to provide support for the caregiver. Acute care facilities and tertiary healthcare providers who have the ability to provide high quality AD care will contribute to the movement of the Dementia Friendly America. Properly educating tertiary healthcare providers to the challenges and unique personalities of those with AD or dementia can improve the quality of care for this vulnerable population in a frightening and intimidating environment.

## Appendix A. Cultural Competence Survey (Assessment)

Increasing cultural diversity of people in our communities and workplaces is a fact of life. Diversity among students, co-workers, and organizations is also expanding. Improvements in travel and communication have brought people with different cultures, languages, and customs into contact as never before. A greater variety of people within our communities, schools, and workplaces continues to have an impact on the way that we think, feel, and act.

This survey is designed to explore your knowledge, feelings, and actions when you interact with others in the context of health care and health service environments and in academic settings. *Your answers are strictly confidential.* The researchers will put your answers together with those of others to get an overall profile for group cultural competence and educational needs. We will also use your responses together with those of other people such as yourself to design cultural competency training programs to meet specific needs. Neither your identity nor your individual answers will be shared with anyone.

Questions on this survey are intended to gather information about how you personally think, feel, and act. Some questions may not fit your situation exactly depending on the type of work you do at this time. Please try to answer every question. If you are unsure or have no opinion on an item, use the “No Opinion” or “Not Sure” options. There are no “right” or “wrong” answers.

Completing this survey is completely voluntary. It will take about 20 minutes of your time. You may choose not to participate. You may stop at any time. Your completion of the survey indicates your informed consent to participate in this study.

**NOTE: This instrument may only be used with the express permission of the**

**authors. For information contact:**

Dr. Stephanie Myers Schim VERSION: 4 NOVEMBER 2009



1. In the past 12 months, which of the following racial/ethnic groups have you encountered among your clients and their families or within the health care environment or workplace? *Mark 'X' for all that apply.*
  - ☐ Hispanic/Latino (including Mexican, Mexican American, Chicano, Puerto Rican, Cuban, other Spanish)
  - ☐ White/Caucasian/European American
  - ☐ Black/African American/Negro
  - ☐ American Indian/Alaska Native
  - ☐ Asian (Asian Indian, Chinese, Filipino, Japanese, Korean, Vietnamese, or other Asian)
  - ☐ Native Hawaiian/Pacific Islander
  - ☐ Arab American/Middle eastern
  - ☐ Other (specify) \_\_\_\_\_
2. In your current environment what percentage of the total population is made up of people from these racial/ethnic groups? *Write in percents to add to 100%*

\_\_\_\_\_ Hispanic/Latino (including Mexican, Mexican American, Chicano, Puerto Rican, Cuban, other Spanish)  
 \_\_\_\_\_ White/Caucasian/European American  
 \_\_\_\_\_ Black/African American/Negro  
 \_\_\_\_\_ American Indian/Alaska Native  
 \_\_\_\_\_ Asian (Asian Indian, Chinese, Filipino, Japanese, Korean, Vietnamese, or other Asian)  
 \_\_\_\_\_ Native Hawaiian/Pacific Islander  
 \_\_\_\_\_ Arab American/Middle Eastern  
 \_\_\_\_\_ All other groups combined  
 100 % = TOTAL

3. In the past 12 months which of the following special population groups have you encountered among your clients and their families or within the health care environment or workplace? *Mark 'X' for all that apply.*
  - ☐ Mentally or emotionally ill
  - ☐ Physically Challenged/Disabled
  - ☐ Homeless/Housing Insecure
  - ☐ Substance Abusers/Alcoholics
  - ☐ Gay, Lesbian, Bisexual, or Transgender
  - ☐ Different religious/spiritual backgrounds

☐ Other (specify) \_\_\_\_\_

4. In your current environment what percentage of the total population is made up of people from these special population groups? *Write in percents; may not total 100%*

\_\_\_\_\_ Mentally or emotionally Ill  
\_\_\_\_\_ Physically Challenged/Disabled  
\_\_\_\_\_ Homeless/Housing Insecure  
\_\_\_\_\_ Substance Abusers/Alcoholics  
\_\_\_\_\_ Gay, Lesbian, Bisexual, or Transgender  
\_\_\_\_\_ Different religious/spiritual backgrounds

5. Overall, how competent do you feel working with people who are from cultures different than your own?

Very competent	Somewhat competent	Neither competent nor incompetent	Somewhat Incompetent	Very Incompetent
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**For each of the following statements, put an 'X' in the box that best describes how you feel about the statement.**

6. Race is the most important factor in determining a person's culture.

Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Opinion
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7. People with a common cultural background think and act alike.

Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Opinion
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

8. Many aspects of culture influence health and health care.

Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Opinion
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

9. Aspects of cultural diversity need to be assessed for each individual, group, and organization.

Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Opinion
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

10. If I know about a person's culture, I don't need to assess their personal preferences for health services.

Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Opinion
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

11. Spiritually and religious beliefs are important aspects of many cultural groups.

Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Opinion
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

12. Individual people may identify with more than one cultural group.

Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Opinion
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

13. Language barriers are the only difficulties for recent immigrants to the United States.

Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Opinion
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

14. I believe that everyone should be treated with respect no matter what their cultural heritage.

Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Opinion
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

15. I understand that people from different cultures may define the concept of "health care" in different ways.

Strongly	Agree	Somewhat	Neutral	Somewhat	Disagree	Strongly	No
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Agree		Agree		Disagree		Disagree	Opinion
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

16. I think that knowing about different cultural groups helps direct my work with individuals, families, groups, and organizations.

Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree	No Opinion
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

***For each of the following statements put 'X' in the box that best describes how often you do the following:***

17. I include cultural assessment when I do individual or organizational evaluations.

Always	Very Often	Somewhat Often	Often	Sometimes	Few Times	Never	Not sure
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

18. I seek information on cultural needs when I identify new people in my work or school.

Always	Very Often	Somewhat Often	Often	Sometimes	Few Times	Never	Not sure
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

19. I have resource books and other materials available to help me learn about people from different cultures.

Always	Very Often	Somewhat Often	Often	Sometimes	Few Times	Never	Not sure
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

20. I use a variety of sources to learn about the cultural heritage of other people.

Always	Very Often	Somewhat Often	Often	Sometimes	Few Times	Never	Not sure
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

21. I ask people to tell me about their own explanations of health and illness.

Always	Very Often	Somewhat Often	Often	Sometimes	Few Times	Never	Not sure
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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22. I ask people to tell me about their expectations for health services.

Always	Very Often	Somewhat Often	Often	Sometimes	Few Times	Never	Not sure
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

23. I avoid using generalizations to stereotype groups of people.

Always	Very Often	Somewhat Often	Often	Sometimes	Few Times	Never	Not sure
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

24. I recognize potential barriers to service that might be encountered by different people.

Always	Very Often	Somewhat Often	Often	Sometimes	Few Times	Never	Not sure
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

25. I remove obstacles for people of different cultures when I identify barriers to services.

Always	Very Often	Somewhat Often	Often	Sometimes	Few Times	Never	Not sure
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

26. I remove obstacles for people of different cultures when people identify barriers to me.

Always	Very Often	Somewhat Often	Often	Sometimes	Few Times	Never	Not sure
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

27. I welcome feedback from clients about how I relate to people from different cultures.

Always	Very Often	Somewhat Often	Often	Sometimes	Few Times	Never	Not sure
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

28. I find ways to adapt my services to individual and group cultural preferences.

Always	Very Often	Somewhat Often	Often	Sometimes	Few Times	Never	Not sure
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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29. I document cultural assessments if I provide direct client services.

Always	Very Often	Somewhat Often	Often	Sometimes	Few Times	Never	Not sure
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

30. I document the adaptations I make with clients if I provide direct client services.

Always	Very Often	Somewhat Often	Often	Sometimes	Few Times	Never	Not sure
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Your answers to these last few questions will help us understand responses from different kinds of people who complete the survey. ALL answers are strictly confidential.**

**Read each item below and decide whether the statement is true or False as it pertains to you personally. Mark your answers with an 'X' in the True or False box.**

31. It is sometimes hard for me to go on with my work if I am not encouraged.

True	False
<input type="checkbox"/>	<input type="checkbox"/>

32. I sometimes feel resentful when I don't get my way.

True	False
<input type="checkbox"/>	<input type="checkbox"/>

33. On a few occasions, I have given up doing something because I thought too little of my ability.

True	False
<input type="checkbox"/>	<input type="checkbox"/>

34. There have been times when I felt like rebelling against people in authority even though I knew they were right.

True	False
------	-------

☐ ☐

35. False matter who I'm talking to, I'm always a good listener.

True False

☐ ☐

36. There have been occasions when I took advantage of someone.

True False

☐ ☐

37. I'm always willing to admit it when I make a mistake.

True False

☐ ☐

38. I sometimes try to get even rather than forgive and forget.

True False

☐ ☐

39. I am always courteous, even to people who are disagreeable.

True False

☐ ☐

40. I have never been irked when people expressed ideas very different from my own.

True False

☐ ☐

41. There have been times when I was quite jealous of the good fortune others.

True False

☐ ☐

42. I am sometimes irritated by people who ask favors of me.

True False

☐☐

43. I have never deliberately said something to hurt someone's feelings.

True

False

☐☐

44. In what year were you born?



45. Using the categories below, what do you consider yourself? (Choose one or more)

- ☐ Hispanic/Latino (including Mexican, Mexican American, Chicano, Puerto Rican, Cuban, other Spanish)
- ☐ White/Caucasian/European American
- ☐ Black/African American/Negro
- ☐ American Indian/Alaska Native
- ☐ Asian (Asian Indian, Chinese, Filipino, Japanese, Korean, Vietnamese, or other Asian)
- ☐ Native Hawaiian/Pacific Islander
- ☐ Arab American/Middle eastern
- ☐ Other (specify) \_\_\_\_\_

46. What is your highest level of education completed?

- ☐ Less than high school
- ☐ Diploma
- ☐ High school or GED
- ☐ Associate degree
- ☐ Bachelors degree
- ☐ Graduate or professional degree

47. Have you ever participated in cultural diversity training?

Yes

NO

☐☐

48. If you have had prior diversity training, which option below best describes it? (Check all that apply)

- ☐ Separate college course for credit
- ☐ Content covered in a college course
- ☐ Professional Conference or Seminar
- ☐ Employer Sponsored Program
- ☐ On-line (computer assisted ) Education
- ☐ Continuing Education Offering
- ☐ Other diversity training types (Specify) \_\_\_\_\_

49. Which of the following best describes your current role?

- ☐ LPN
- ☐ RN
- ☐ Clerical Worker
- ☐ Nutritionist
- ☐ Therapist (occupational or physical)
- ☐ Physician
- ☐ Other \_\_\_\_\_

**Thank you for taking this survey. We appreciate your time and effort!**

**If you have any questions or concerns about this research, please contact:**

## Appendix B. Dementia Attitude Scale

### The Attitude toward Alzheimer's disease and Related Dementias Scale

Directions: Please rate each statement according to how much you agree or disagree with it.  
Circle 1, 2, 3, 4, 5, 6, or 7 according to how you feel in each case.

*Please be honest. There are no right or wrong answers.*

The acronym "ADRD" in each question stands for "Alzheimer's disease and related dementias."

1. It is rewarding to work with people who have ADRD.

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree

2. I am afraid of people with ADRD.

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree

3. People with ADRD can be creative.

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree

4. I feel confident around people with ADRD

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree

5. I am comfortable touching people with ADRD.

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree

6. I feel uncomfortable being around people with ADRD.

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree

7. Every person with ADRD has different needs.

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree

8. I am not very familiar with ADRD.

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree

9. I would avoid an agitated person with ADRD.

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree

10. People with ADRD like having familiar things nearby.

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree

11. It is important to know the past history of people with ADRD.

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree

12. It is possible to enjoy interacting with people with ADRD.

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree

13. I feel relaxed around people with ADRD.

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree

14. People with ADRD can enjoy life.

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree

15. People with ADRD can feel when others are kind to them.

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree

16. I feel frustrated because I do not know how to help people with ADRD.

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree

17. I cannot imagine taking care of someone with ADRD.

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree

18. I admire the coping skills of people with ADRD.

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree

19. We can do a lot now to improve the lives of people with ADRD.

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree

20. Difficult behaviors may be a form of communication for people with ADRD.

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree

### **Demographic Information**

1. Gender: ☐ Male ☐ Female

2. Age: \_\_\_\_\_

3. Race: ☐ White ☐ Hispanic ☐ African American ☐ Asian

☐ Native American ☐ Other

4. Have you ever known or worked with someone who has ADRD? ☐ yes ☐ no

If yes, please explain. How long have you known, or did you know,  
the person or people with ADRD? How close was/is your  
relationship? \_\_\_\_\_

---

*You're done! Thank you for your help!*

**Appendix C. Alzheimer's disease Knowledge Scale with answers**  
**Alzheimer's Disease Knowledge Scale**

Below are some statements about Alzheimer's disease. Please read each statement carefully and circle whether you think the statement is True or False. If you aren't sure of the right answer, make your best guess. It's important to circle an answer for every statement, even if you're not completely sure of the answer.

- |  |   |  |
|--|---|--|
| <input checked="" type="checkbox"/> True | False                                     | 1. People with Alzheimer's disease are particularly prone to depression.   |
| True                                     | <input checked="" type="checkbox"/> False | 2. It has been scientifically proven that mental exercise can prevent a person from getting Alzheimer's disease.   |
| <input checked="" type="checkbox"/> True | False                                     | 3. After symptoms of Alzheimer's disease appear, the average life expectancy is 6 to 12 years.   |
| <input checked="" type="checkbox"/> True | False                                     | 4. When a person with Alzheimer's disease becomes agitated, a medical examination might reveal other health problems that caused the agitation.                                      |
| <input checked="" type="checkbox"/> True | False                                     | 5. People with Alzheimer's disease do best with simple, instructions given one step at a time.   |
| True                                     | <input checked="" type="checkbox"/> False | 6. When people with Alzheimer's disease begin to have difficulty taking care of themselves, caregivers should take over right away.  |
| <input checked="" type="checkbox"/> True | False                                     | 7. If a person with Alzheimer's disease becomes alert and agitated at night, a good strategy is to try to make sure that the person gets plenty of physical activity during the day. |
| True                                     | <input checked="" type="checkbox"/> False | 8. In rare cases, people have recovered from Alzheimer's disease.  |
| <input checked="" type="checkbox"/> True | False                                     | 9. People whose Alzheimer's disease is not yet severe can benefit from psychotherapy for depression and anxiety.   |
| True                                     | <input checked="" type="checkbox"/> False | 10. If trouble with memory and confused thinking appears suddenly, it is likely due to Alzheimer's disease.  |
| True                                     | <input checked="" type="checkbox"/> False | 11. Most people with Alzheimer's disease live in nursing homes.  |

- |                               |       |   |
|-------------------------------|-------|---|
| <input type="checkbox"/> True | False | 12. Poor nutrition can make the symptoms of Alzheimer's disease worse.                                    |
| <input type="checkbox"/> True | False | 13. People in their 30s can have Alzheimer's disease.   |
| <input type="checkbox"/> True | False | 14. A person with Alzheimer's disease becomes increasingly likely to fall down as the disease gets worse. |

***(questions continue)***

- |                               |                                |  |
|-------------------------------|--------------------------------|--|
| True                          | <input type="checkbox"/> False | 15. When people with Alzheimer's disease repeat the same question or story several times, it is helpful to remind them that they are repeating themselves. |
| True                          | <input type="checkbox"/> False | 16. Once people have Alzheimer's disease, they are no longer capable of making informed decisions about their own care.                                    |
| <input type="checkbox"/> True | False                          | 17. Eventually, a person with Alzheimer's disease will need 24-hour supervision.   |
| <input type="checkbox"/> True | False                          | 18. Having high cholesterol may increase a person's risk of developing Alzheimer's disease.  |
| True                          | <input type="checkbox"/> False | 19. Tremor or shaking of the hands or arms is a common symptom in people with Alzheimer's disease.   |
| <input type="checkbox"/> True | False                          | 20. Symptoms of severe depression can be mistaken for symptoms of Alzheimer's disease.   |
| <input type="checkbox"/> True | False                          | 21. Alzheimer's disease is one type of dementia.   |
| <input type="checkbox"/> True | False                          | 22. Trouble handling money or paying bills is a common early symptom of Alzheimer's disease.   |
| <input type="checkbox"/> True | False                          | 23. One symptom that can occur with Alzheimer's disease is believing that other people are stealing one's things.  |
| True                          | <input type="checkbox"/> False | 24. When a person has Alzheimer's disease, using reminder notes is a crutch that can contribute to decline.  |
| True                          | <input type="checkbox"/> False | 25. Prescription drugs that prevent Alzheimer's disease are available.   |

- |                          |                          |  |
|--------------------------|--------------------------|--|
| <input type="checkbox"/> | False                    | 26. Having high blood pressure may increase a person's risk of developing Alzheimer's disease.                         |
| <input type="checkbox"/> | False                    | 27. Genes can only partially account for the development of Alzheimer's disease.                                       |
| True                     | <input type="checkbox"/> | 28. It is safe for people with Alzheimer's disease to drive, as long as they have a companion in the car at all times. |
| <input type="checkbox"/> | False                    | 29. Alzheimer's disease cannot be cured.   |
| True                     | <input type="checkbox"/> | 30. Most people with Alzheimer's disease remember recent events better than things that happened in the past.          |



## **Appendix D. Consents**

*Dignity Health*

University of Hawai'i, Manoa

### **Consent to Participate in Research**

**Title of Study:** "Assessment of the Cultural Competence, Dementia Attitude, and Alzheimer's Disease Knowledge Among Tertiary Care Providers"

My name is Jo Ann Pelaez-Fisher. I am a graduate student at the University of Hawai'i (UH). As part of my degree program, I am conducting a research project. The purpose of my project is to assess the cultural competence, dementia attitude, and Alzheimer's disease knowledge among tertiary care providers in Las Vegas, Nevada. I am asking you to participate in this project because you are at least 18 years old and are a tertiary care provider (acute care/in-patient setting). My goal is to compare results of the survey of tertiary care providers with results of the survey of employees of a non-healthcare setting.

**Project Description – Activities and Time Commitment:** If you decide to take part in this project, you will be asked to fill out an electronic survey. The survey questions are multiple choice and true/false. The survey is accessed on this website which will directly provide you a link to. Completing the survey will take approximately 30 minutes. I expect around 100 people will take part in this project.

**Benefits and Risks:** There will be no direct benefit to you for taking part in this project. The findings from this project may help create a better understanding of the cultural competence, attitudes towards dementia, and knowledge of Alzheimer's disease among tertiary care providers. There is no risk to you in participating in this project.

**Confidentiality and Privacy:** The responses to this survey will remain confidential and private. Personal information or IP addresses will not be obtained.

**Voluntary Participation:** You can freely choose to take part or to not take part in this survey. There will be no penalty or loss of benefits for either decision. Your decision to whether or not to take part in this study will not affect your employment with Dignity Health. If you do agree to participate, you can stop at

any time. There will be no payment for participation in the survey.

Questions and Contact information: If you have any questions about this study, please call or email me at 702-651-7526 and [jpelaez@hawaii.edu](mailto:jpelaez@hawaii.edu). You may also contact my adviser, Dr. Joseph Mobley, at 808-956-0889 and [jmobley@hawaii.edu](mailto:jmobley@hawaii.edu) or Dr. Charles Bernick, at 702-483-6000 and [bernicc@ccf.org](mailto:bernicc@ccf.org). If you have questions about your rights as a research participant, you may contact the UH Human Studies Program at 808.956.5007 or [uhirb@hawaii.edu](mailto:uhirb@hawaii.edu).

All research involving people, like yourself, is reviewed by an Institutional Review Board or "IRB." An IRB Committee is made up of scientists, doctors, nurses and members of the community. The job of the IRB is to protect the rights and welfare of subjects who volunteer to be in research. This research has been reviewed by the Dignity Health IRB. For questions about your rights as a study participant, please contact the Dignity Health IRB at: IRB Name: Dignity Health IRB, 3810 J Street, Sacramento, CA 95816; Telephone number: 916-453-4012.

To Access the Survey: Please continue to the following survey pages. If you choose not to participate in this survey, please close this web page.

Instructions for completing the survey will be provided on each page. Completing the survey will be considered as your consent to participate in this study.

Please print a copy of this page for your reference.

*The College of Southern Nevada*

University of Hawai'i, Manoa

### Consent to Participate in Research

Title of Study: "Assessment of the Cultural Competence, Dementia Attitude, and Alzheimer's Disease Knowledge Among Tertiary Care Providers"

My name is Jo Ann Pelaez-Fisher. I am a graduate student at the University of Hawai'i (UH). As part of my degree program, I am conducting a research project. The purpose of my project is to assess the cultural competence, dementia attitude, and Alzheimer's disease knowledge among tertiary care providers in Las Vegas, Nevada. I am asking you to participate in this project because you are at least 18 years old and are working in a non-healthcare setting. My goal is to compare results of this survey by non-healthcare employees to results of healthcare employees.

**Project Description – Activities and Time Commitment:** If you decide to take part in this project, you will be asked to fill out an electronic survey. The survey questions are multiple choice and true/false. The survey is accessed on this website which will directly provide you a link to. Completing the survey will take approximately 30 minutes. I expect around 100 people will take part in this project.

**Benefits and Risks:** There will be no direct benefit to you for taking part in this project. The findings from this project may help create a better understanding of the cultural competence, attitudes towards dementia, and knowledge of Alzheimer's disease among tertiary care providers. There is little no to you in participating in this project.

**Confidentiality and Privacy:** The responses to this survey will remain confidential and private. Personal information will not be obtained

**Voluntary Participation:** You can freely choose to take part or to not take part in this survey. There will be no penalty or loss of benefits for either decision. If you do agree to participate, you can stop at any time. There will be no payment for participation in this survey.

**Questions and Contact Information:** If you have any questions about this

study, please call or email me at 702-651-7526 and [jpelaez@hawaii.edu](mailto:jpelaez@hawaii.edu). You may also contact my adviser, Dr. Joseph Mobley, at 808-956-0889 and [jmobley@hawaii.edu](mailto:jmobley@hawaii.edu) or Dr. Charles Bernick, at 702-483-6000 and [bernicc@ccf.org](mailto:bernicc@ccf.org). If you have questions about your rights as a research participant, you may contact the UH Human Studies Program at 808.956.5007 or [uhirb@hawaii.edu](mailto:uhirb@hawaii.edu).

To Access the Survey: Please continue to the following survey pages. If you choose not to participate in the survey, please close this web page.

Instructions for completing the survey will be on each page. Completing the survey will be considered as your consent to participate in this study.

Please print a copy of this page for your reference.

## Appendix E. Author Approvals

2/9/2015

University of Hawaii Mail - Cultural Competence Assessment tool



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of HAWAII  
SYSTEM

Jo Ann Pelaez-Fisher <jpelaez@hawaii.edu>

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### Cultural Competence Assessment tool

8 messages

---

**Jo Ann Pelaez-Fisher** <jpelaez@hawaii.edu>  
To: ef8107@wayne.edu

Sat, Nov 15, 2014 at 11:52 AM

Hello Dr. Schim

I am a PhD student at the University of Hawaii and my dissertation focus is on formal caregivers of for patients with Alzheimer's disease. I would like to assess the cultural competence of the formal caregivers. My proposal is to administer the cultural competence assessment tool along with the Alzheimer's disease knowledge scale to licensed nurses in Las Vegas, Nevada.

What is the process of requesting permission to use the Cultural Competence Assessment tool that you have created? Your guidance is greatly appreciated.

Sincerely,

Jo Ann Pelaez-Fisher

---

**Christine Marie Rodemeyer** <christine.rodemeyer@wayne.edu>  
To: Jo Ann Pelaez-Fisher <jpelaez@hawaii.edu>

Mon, Nov 17, 2014 at 8:03 AM

I am delighted to learn of your interest in the Cultural Competence Assessment tool. I am sending three files for your information and use:

1. an MSWord copy of the CCA tool
2. a couple of pages that describe how the items are scored
3. a bibliography of papers about the theory, the tool development, and some uses to date

Once you have a chance to review this material, I will be happy to answer any additional questions you may have. We do not charge for academic, service, or research use of the tool. We only ask that you give my team credit as the tool's source and let us know how it works out if you decide to use it in your project. Let me know how I can be of help.

Best Regards,

*Christine Rodemeyer*

Christine Rodemeyer, M.B.A.

Distance Learning and Area Coordinator

Wayne State University College of Nursing

5557 Cass Ave #232

Detroit, MI 48202

<https://mail.google.com/mail/u/0/?ui=2&ik=a2733fc6e4&view=pt&search=inbox&th=149b503569e25557&siml=149b503569e25557&siml=149c9df24c945d1d&si...> 1/6

313-577-1363

**From:** Jo Ann Pelaez-Fisher [mailto:jpelaez@hawaii.edu]  
**Sent:** Saturday, November 15, 2014 2:52 PM  
**To:** ef8107@wayne.edu  
**Subject:** Cultural Competence Assessment tool

[Quoted text hidden]

---

**3 attachments**

 **CCA REF LIST23JUN2011.docx**  
19K

 **CCA\_Word\_format NOV2010.docx**  
37K

 **Coding NOV 2010.docx**  
18K

---

**Jo Ann Pelaez-Fisher** <jpelaez@hawaii.edu>  
To: Christine Marie Rodemeyer <christine.rodemeyer@wayne.edu>

Mon, Nov 17, 2014 at 9:17 AM

Ms. Rodemeyer

I am excited to have received your approval! Thank you for allowing me to use the tool and providing the additional information. My question at this time is, am I able to transfer the questions onto an online format such as Survey Monkey? I hope to send out the survey to nurses in Las Vegas through their work email. I will leave all questions in its original format.

I appreciate your generosity and kindness.

Sincerely,

Jo Ann Pelaez-Fisher  
[Quoted text hidden]

---

**Christine Marie Rodemeyer** <christine.rodemeyer@wayne.edu>  
To: Jo Ann Pelaez-Fisher <jpelaez@hawaii.edu>

Mon, Nov 17, 2014 at 9:40 AM

That should be fine. Thank you and keep me updated.

*Christine Rodemeyer*

Christine Rodemeyer, M.B.A.

Distance Learning and Area Coordinator



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of HAWAII  
SYSTEM

Jo Ann Pelaez-Fisher <jpelaez@hawaii.edu>

---

## Dementia Attitudes Scale

5 messages

---

**Jo Ann Pelaez-Fisher** <jpelaez@hawaii.edu>  
To: melissa.oconnor@ndsu.edu

Mon, Jan 26, 2015 at 9:38 AM

Hello Dr. O'Connor

I am a PhD Nursing student at University of Hawaii, Manoa. For my dissertation topic, I would like to assess the knowledge, attitudes, and cultural competence of Alzheimer's disease and dementia in the Las Vegas, NV population of formal caregivers. Las Vegas has a large elderly population and I would like to know if the formal caregivers have sufficient knowledge, positive attitudes and competence when caring for patients with Alzheimer's disease or dementia. I am asking permission to use the tool you had developed: the Dementia Attitudes Scale?

If you are able to assist me it would be greatly appreciated.

Sincerely,

Jo Ann Pelaez-Fisher

---

**Melissa O'Connor** <melissa.oconnor@ndsu.edu>  
To: Jo Ann Pelaez-Fisher <jpelaez@hawaii.edu>

Mon, Jan 26, 2015 at 2:49 PM

Hello Jo Ann,

You're welcome to use the DAS. I've attached a printable version of it. Please note that items 2, 6, 8, 9, 16, and 17 are reverse scored. Good luck with your dissertation.

All the best,

Dr. O'Connor

---

**From:** Jo Ann Pelaez-Fisher <jpelaez@hawaii.edu>  
**Sent:** Monday, January 26, 2015 11:38 AM  
**To:** Melissa O'Connor  
**Subject:** Dementia Attitudes Scale

[Quoted text hidden]

2/9/2015

University of Hawaii Mail - Dementia Attitudes Scale

 **Final DAS scale.doc**  
42K

Jo Ann <jpelaez@hawaii.edu>  
To: Melissa O'Connor <melissa.oconnor@nds.u.edu>

Univ. of South  
Florida, USA

Mon, Jan 26, 2015 at 7:35 PM

Oh God Bless you Dr O'Connor! Thank you very much for the quick response and your support!!

Sincerely,

Jo Ann Pelaez-Fisher

Sent from my iPhone  
[Quoted text hidden]

<Final DAS scale.doc>

Jo Ann <jpelaez@hawaii.edu>  
To: Joseph Mobley <jmobley@hawaii.edu>

Mon, Jan 26, 2015 at 7:41 PM

Hello Dr Mobley

You may think I am over ambitious, but I just received approval to use a third tool: Dementia Attitude Scale. It is a 30-item likert scale that is measuring ones attitude regarding pts w/ dementia. I am excited to be able to use three different tools and find correlation among them. So at this point I want to measure the formal caregivers knowledge of AD, attitude of dementia, and their culture competence. Does this seem reasonable??

Jo Ann

Sent from my iPhone

Begin forwarded message:

**From:** Melissa O'Connor <melissa.oconnor@nds.u.edu>  
**Date:** January 26, 2015, 2:49:16 PM PST  
**To:** Jo Ann Pelaez-Fisher <jpelaez@hawaii.edu>  
**Subject:** Re: Dementia Attitudes Scale

[Quoted text hidden]

 **Final DAS scale.doc**  
42K

Joseph Mobley <jmobley@hawaii.edu>  
To: Jo Ann <jpelaez@hawaii.edu>

Mon, Jan 26, 2015 at 7:58 PM

Sure, why not. You'll need to amend the IRB application then

--jm  
[Quoted text hidden]

<https://mail.google.com/mail/u/0/?ui=2&ik=a2733fc6e4&view=pt&q=mobley&qs=true&search=query&th=14b2752d418cb7bb&siml=14b2752d418cb7bb&siml=1...> 2/3



2/9/2015

University of Hawaii Mail - ADKS



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WASH  
Jepelaez

Jo Ann Pelaez-Fisher <jpelaez@hawaii.edu>

---

## ADKS

6 messages

---

**Jo Ann Pelaez-Fisher** <jpelaez@hawaii.edu>  
To: bcarpenter@wustl.edu

Sat, Aug 2, 2014 at 9:16 PM

Hello Dr. Carpenter

I am a PhD student at the University of Hawaii, Manoa. I am asking if you can grant me permission to utilize the Alzheimer's Disease Knowledge Scale that you had developed along with your colleagues. My dissertation topic is regarding Alzheimer's disease knowledge among healthcare providers in the state of Nevada.

I hope you kindly consider this request.

Sincerely,

Jo Ann Pelaez-Fisher

---

**Carpenter, Brian** <bcarpenter@wustl.edu>  
To: Jo Ann Pelaez-Fisher <jpelaez@hawaii.edu>

Sun, Aug 3, 2014 at 5:14 AM

Dear Jo Ann,

Thank you for your interest in the ADKS. You have our permission to use the scale in your work. At the link below you can find additional information about the scale, including scoring details:

<http://www.psych.wustl.edu/geropsych/ADKS.html>

We would be interested to hear about the progress and results from your research, so if possible please let me know when you've wrapped things up. We're also always interested in getting feedback about the scale, as we're preparing a revision sometime in the near future.

Regards,

Brian

Brian D. Carpenter, Ph.D.

<https://mail.google.com/mail/u/0/?ui=2&ik=a2733fc6e4&view=pt&q=carpenter&qs=true&search=query&th=1479a155e4f538e8&siml=1479a155e4f538e8&siml=...> 1/3

Associate Professor  
Psychology Department  
CB 1125  
Washington University  
#1 Brookings Drive  
St. Louis, MO 63130-4899  
phone: (314) 935-8212  
fax: (314) 935-7588

---

**From:** Jo Ann Pelaez-Fisher <jpelaez@hawaii.edu>  
**Sent:** Saturday, August 2, 2014 11:16 PM  
**To:** Carpenter, Brian  
**Subject:** ADKS

[Quoted text hidden]

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**Jo Ann** <jpelaez@hawaii.edu>  
To: "Carpenter, Brian" <bcarpenter@wustl.edu>

Wed, Aug 6, 2014 at 7:33 PM

Thank you Dr Carpenter for allowing me to use the scale. I gladly will keep you abreast with my study and the results of the study analysis.

Sincerely,

Jo Ann Pelaez-Fisher

Sent from my iPhone

[Quoted text hidden]

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**Jo Ann Pelaez-Fisher** <jpelaez@hawaii.edu>  
To: "Carpenter, Brian" <bcarpenter@wustl.edu>

Wed, Dec 10, 2014 at 8:54 PM

Hello Dr Carpenter

I hope this email finds you well with the semester winding down. From our last communication, you had allowed me to use the Alzheimer's Disease Knowledge Scale for my dissertation study at University of Hawaii, Manoa. I am hoping to use the scale for this spring 2015 for a pilot study to test its reliability and validity with a sample in Las Vegas, Nevada. You had mentioned that your team was considering revising the tool and I was wondering if that had occurred yet.

Another question I have is may I have an electronic version of the ADKS tool so I may show the tool to my statistics instructor prior to proceeding with the pilot study?

I appreciate your time and kindness.

Sincerely,

Jo Ann Pelaez-Fisher

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**Carpenter, Brian** <bcarpenter@wustl.edu>  
To: Jo Ann Pelaez-Fisher <jpelaez@hawaii.edu>

Thu, Dec 11, 2014 at 7:34 AM

Hi Jo Ann,

That would be fine. Good luck with the pilot.

We have not finished revising the scale, so you can continue to use the original version.  
Here's the link to the website where you can download a copy:

<http://pages.wustl.edu/geropsychology/adks>

Regards,

Brian

Brian D. Carpenter, Ph.D.  
Associate Professor  
Psychology Department  
CB 1125  
Washington University  
#1 Brookings Drive  
St. Louis, MO 63130-4899  
phone: (314) 935-8212  
fax: (314) 935-7588

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**From:** Jo Ann Pelaez-Fisher <jpelaez@hawaii.edu>  
**Sent:** Wednesday, December 10, 2014 10:54 PM  
**To:** Carpenter, Brian  
**Subject:** Re: ADKS

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**Jo Ann** <jpelaez@hawaii.edu>  
To: "Carpenter, Brian" <bcarpenter@wustl.edu>

Thu, Dec 11, 2014 at 9:32 AM

Thank you Dr Carpenter!

Sent from my iPhone  
[Quoted text hidden]

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